DRAFT

ENVIRONMENTAL IMPACT REPORT

Volume I Environmental Document

FOR THE

RIVER WALK SPECIFIC PLAN

(SCH: 2021060098)

JANUARY 2024

Prepared for:

City of Riverbank, Development Services Department
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A Land Use Planning, Design, and Environmental Firm

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Appendix B: Air Quality, Greenhouse Gas, and Energy Modeling

Appendix C: Cultural Resource Assessment (Confidential)

Appendix D: Preliminary Geotechnical Engineering Report

Appendix E: Phase I Environmental Site Assessment

Appendix F: Environmental Noise Assessment

Appendix G: Transportation Technical Appendix

Appendix H: Water Supply Assessment

INTRODUCTION

The City of Riverbank has determined that the River Walk Specific Plan is a "Project" within the definition of CEQA. CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project that may have a significant impact on the environment. For the purposes of CEQA, the term "Project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

The EIR contains a description of the Project, description of the environmental setting, identification of Project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of Project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the Notice of Preparation (NOP) were considered in preparing the analysis in this EIR.

PROJECT DESCRIPTION

The overall Project Area includes several distinct planning boundaries defined below. The following terms are used throughout this DEIR to describe planning area boundaries within the Project Area:

- SOI Expansion Area – includes the area covered by the proposed Sphere of Influence Amendment and encompasses the entire Project Area, including the Reserve land.
- Specific Plan Area - includes all lands identified and included within the River Walk Specific Plan. The Specific Plan Area is proposed to be annexed into the City of Riverbank as part of the proposed Project. The Specific Plan Area is a portion of the SOI Expansion Area.
- Berghill Boundary – includes areas within the Specific Plan Area that are controlled by the project applicant.
- Project area - includes the SOI expansion area, including the Specific Plan and Berghill Boundary. The Project Area is the same boundary as the SOI Expansion Area.

The current uses in the Project Area are predominantly agricultural operations, including almond and walnut orchards in the eastern/southeastern portion of the Project Area and cherry orchards and fallow land in the western/central portion of the Project Area. The land in the north/northwestern portion of the Project Area contains fallow land and various trees including Eucalyptus and Willow trees. In the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. Additionally, one-horse ranch exists within the Project Area. The Project Area also

includes a commercial nursery business and truck storage area. Additionally, an approximately 150-acre solar farm and the Modesto Rifle Club exist in the southwest portion of the Project Area directly northeast of the intersection of Patterson Road and McHenry Avenue, and the Morris Nursery exists in the southeastern corner of the Project Area directly northwest of the intersection of Patterson Road and Rock Creek Road.

The Modesto Irrigation District (MID) provides the water supply for the existing agricultural uses and maintains two easements in the Project Area. A MID main canal with a crossing is located approximately 950 feet to the west and approximately 0.45 miles to the east of the intersection of Patterson Road and Coffee Road in the southern portion of the Project Area. The canal enters in the southwest portion of the Project Area and runs to the northeast eventually curving to exit the Project Area in the southeast. A series of private irrigation ditches and pipes distribute the MID water from the on-site canals throughout the Project Area for agricultural use.

The proposed project includes the expansion of the City of Riverbank Sphere of Influence, and approval and subsequent implementation of the Specific Plan as a means of increasing the housing supply in Stanislaus County and the State of California. The Sphere of Influence expansion covers approximately 1,522 acres. The Specific Plan covers approximately 997 acres of the Sphere of Influence expansion area, and includes an annexation into the Riverbank City limits, extension of infrastructure to the annexed area to serve development, and the subsequent development of the annexed area for: Low Density Residential, Medium Density Residential, High Density Residential, Mixed-Use, and Parks/Recreation, including all infrastructure and utilities necessary to service the development.

The Specific Plan is a Mixed-Use development project that provides for a range of residential housing densities, neighborhood-scale retail, commercial and health/medical services, private clubhouse, public recreation, a pedestrian/bicycle trail system, and extensive open space and landscaping. The Specific Plan provides an opportunity for an active adult community on a portion of the Specific Plan Area, with the remaining portion designed for all ages.

The quantifiable objectives include expansion of the Riverbank Sphere of Influence by approximately 1,522 acres, annexation of approximately 997 acres into the Riverbank City limits, extension of infrastructure to the annexed area to serve development, and the subsequent development of the annexed area for: Low Density Residential, Medium Density Residential, High Density Residential, Mixed-Use, and Parks/Recreation, including all infrastructure and utilities necessary to service the development. See Chapter 2.0 for a complete Project Description.

AREAS OF CONCERN AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the proposed Project that are known to the City of Riverbank, were raised during the NOP process, or raised during preparation of the Draft EIR. This Draft EIR discusses potentially significant impacts associated with aesthetics, agricultural resources, air quality, biological resources, cultural and tribal resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land

use, population and housing, noise, public services and recreation, transportation and circulation, and utilities. Areas of concern include the following:

- Loss of productive farmland and productive agricultural soils
- Development within a floodplain
- Protection and preservation of potential tribal cultural resources
- Increased traffic on local and regional roadways, and site access
- Increased operational noise
- Provision of utilities and public services, including construction of infrastructure
- Removal of on-site vegetation and species habitat
- Source of water for the proposed Project and potential effects related to groundwater recharge
- Elevated sources of greenhouse gas emissions
- Expansion of City's SOI
- Potential growth inducing impacts
- Potential health-related impacts resulting from criteria pollutant emissions and greenhouse gas emissions
- Potential hazardous release of hazardous materials during construction and operation
- Potential hazards associated with residual chemicals from farming

The City of Riverbank received 28 written comment letters on the NOP for the proposed Project. A copy of the letters is provided in Appendix A of this Draft EIR. The commenting agency/citizen is provided below. The City also held a public scoping meeting on June 17, 2021.

- Native American Heritage Commission
- California Natural Resources Agency, Central Valley Flood Protection Board
- California Department of Toxic Substances Control
- Annabel Gammon
- California Department of Conservation, Division of Land Resources Protection
- Scott Murray
- Dennis Jackman
- Soluri Meserve
- Stanislaus Local Agency Formation Commission
- San Joaquin Valley Air Pollution Control District
- City of Modesto, Development Services Department
- Jeani Ferrari
- Jim Gerber
- Richard Meissner
- Blake and Alisha Fisher
- Bernard and Jami Aggers
- Danilo and Maria Martinez
- Elena Martinez
- Evelyn Halbert
- Art Mitchell

- Betsey Walton
- California Natural Resources Agency, Department of Fish and Wildlife
- Central Valley Concerned Citizens
- Central Valley Regional Water Quality Control Board
- Jayne Waters
- Matt Veneman
- Susan Wedegaertner
- Wendy Summer

ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the Project or to the location of the Project which would reduce or avoid any of the significant impacts of the Project, and which could feasibly accomplish most of the basic objectives of the proposed Project. Three alternatives to the proposed Project were developed based on input from City staff, and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project.

- **No Project (No Build) Alternative**: Under this alternative, development of the Plan Area would not occur, and the Plan Area would remain in its current existing condition.
- **Increased Density Alternative:** Under this alternative, the proposed Project would be developed with the same amenities as described in the Project Description, but the density of the residential uses would be increased, and the total development footprint would be equal to the proposed Specific Plan.
- **Lower Density Alternative:** Under this alternative, the proposed Project would be developed in such a way to promote larger lot sizes and to reduce the overall footprint of the developed areas.
- **No Reserve Alternative:** Under this alternative, the proposed Project would be developed with the same amenities as described in the Project Description, but the Reserve Area located outside the Specific Plan Area would be removed from the Project Area.

Alternatives are described in detail in Chapter 5. Table ES-1 presents a comparison of the impacts from the proposed Project relative to the Alternatives. As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. The Increased Density Alternative would reduce impacts related to 24 impact statements, increase impacts related to one impact statement, and equal impacts related to 38 impact statements. The Lower Density Alternative would reduce impacts related to 30 impact statements and would have equal impacts related to 33 impact statements. The No Reserve Alternative would result in equal impacts in all areas and for all impacts, except for one Land Use related impact statement. Therefore, the Lower Density Alternative would be the next environmentally superior alternative.

TABLE ES-1: COMPARISON SUMMARY OF ALTERNATIVES TO THE PROPOSED PROJECT

ENVIRONMENTAL TOPIC	*PROPOSED PROJECT*[1]	*NO PROJECT (NO BUILD) ALTERNATIVE*	*INCREASED DENSITY ALTERNATIVE*	*LOWER DENSITY ALTERNATIVE*	*NO RESERVE ALTERNATIVE*
SECTION 3.1 - AESTHETICS (AES)					
AES Impact 3.1-1	SU	Less	Equal	Equal	Equal
AES Impact 3.1-2	LS	Less	Less	Equal	Equal
AES Impact 3.1-3	LS	Less	Less	Equal	Equal
SECTION 3.2 – AGRICULTURAL RESOURCES (AG)					
AG Impact 3.2-1	SU	Less	Equal	Equal	Equal
AG Impact 3.2-2	LS	Less	Equal	Equal	Equal
AG Impact 3.2-3	LS/MM	Less	Equal	Equal	Equal
SECTION 3.3 - AIR QUALITY (AQ)					
AQ Impact 3.3-1	LS/MM	Less	Less	Less	Equal
AQ Impact 3.3-2	LS/MM	Less	Less	Less	Equal
AQ Impact 3.3-3	LS	Less	Equal	Equal	Equal
AQ Impact 3.3-4	LS/MM	Less	Less	Less	Equal
AQ Impact 3.3-5	LS	Less	Equal	Equal	Equal
SECTION 3.4 - BIOLOGICAL RESOURCES (BIO)					
BIO Impact 3.4-1	LS/MM	Less	Less	Equal	Equal
BIO Impact 3.4-2	LS/MM	Less	Less	Equal	Equal
BIO Impact 3.4-3	SU	Less	Less	Equal	Equal
BIO Impact 3.4-4	LS/MM	Less	Less	Equal	Equal
BIO Impact 3.4-5	LS	Less	Less	Equal	Equal
BIO Impact 3.4-6	LS/MM	Less	Less	Equal	Equal
BIO Impact 3.4-7	LS	Less	Equal	Equal	Equal
BIO Impact 3.4-8	LS	Less	Equal	Equal	Equal
BIO Impact 3.4-9	LS	Less	Equal	Equal	Equal
BIO Impact 3.4-10	LS/MM	Less	Less	Equal	Equal
SECTION 3.5 - CULTURAL AND TRIBAL RESOURCES (CLT)					
CLT Impact 3.5-1	LS/MM	Less	Equal	Equal	Equal
CLT Impact 3.5-2	LS/MM	Less	Equal	Equal	Equal
SECTION 3.6 - GEOLOGY AND SOILS (GEO)					
GEO Impact 3.6-1	LS	Less	Equal	Less	Equal
GEO Impact 3.6-2	LS/MM	Less	Equal	Less	Equal
GEO Impact 3.6-3	LS/MM	Less	Equal	Less	Equal

Environmental Topic	*Proposed Project*[1]	*No Project (No Build) Alternative*	*Increased Density Alternative*	*Lower Density Alternative*	*No Reserve Alternative*
GEO Impact 3.6-4	LS	Less	Equal	Less	Equal
GEO Impact 3.6-5	LS/MM	Less	Equal	Equal	Equal
Section 3.7 - Greenhouse Gases, Climate Change and Energy (GHG)					
GHG Impact 3.7-1	LS	Less	Less	Less	Equal
GHG Impact 3.7-2	LS	Less	Less	Less	Equal
Section 3.8 - Hazards and Hazardous Materials (HAZ)					
HAZ Impact 3.8-1	LS/MM	Less	Equal	Equal	Equal
HAZ Impact 3.8-2	LS	Less	Equal	Equal	Equal
HAZ Impact 3.8-3	LS	Less	Equal	Equal	Equal
HAZ Impact 3.8-4	LS	Less	Equal	Equal	Equal
HAZ Impact 3.8-5	LS	Less	Equal	Equal	Equal
HAZ Impact 3.8-6	LS	Less	Equal	Equal	Equal
Section 3.9 - Hydrology and Water Quality (HYD)					
HYD Impact 3.9-1	LS/MM	Less	Less	Less	Equal
HYD Impact 3.9-2	LS	Less	Less	Less	Equal
HYD Impact 3.9-3	LS	Less	Less	Less	Equal
HYD Impact 3.9-4	LS	Less	Less	Less	Equal
HYD Impact 3.9-5	LS	Less	Less	Less	Equal
Section 3.10 - Land Use, Population and Housing (LUPH)					
LUPH Impact 3.10-1	LS	Less	Equal	Equal	Equal
LUPH Impact 3.10-2	LS	Less	Equal	Equal	Less
LUPH Impact 3.10-3	LS	Less	Equal	Less	Equal
Section 3.11 - Noise (NOI)					
NOI Impact 3.11-1	SU	Less	Equal	Less	Equal
NOI Impact 3.11-2	LS/MM	Less	Equal	Less	Equal
NOI Impact 3.11-3	LS/MM	Less	Equal	Less	Equal
NOI Impact 3.11-4	SU	Less	Equal	Less	Equal
Section 3.12 - Public Services and Recreation (PSR)					
PS Impact 3.12-1	LS	Less	Equal	Less	Equal
PS Impact 3.12-2	LS	Less	Equal	Less	Equal
PS Impact 3.12-3	SU	Less	Equal	Less	Equal
PS Impact 3.12-4	LS	Less	Equal	Less	Equal
PS Impact 3.12-5	LS	Less	Equal	Less	Equal

ENVIRONMENTAL TOPIC	*PROPOSED PROJECT*[1]	*NO PROJECT (NO BUILD) ALTERNATIVE*	*INCREASED DENSITY ALTERNATIVE*	*LOWER DENSITY ALTERNATIVE*	*NO RESERVE ALTERNATIVE*
SECTION 3.13 - TRANSPORTATION AND CIRCULATION (TC)					
TC Impact 3.13-1	SU	Less	Less	Less	Equal
TC Impact 3.13-2	SU	Less	Less	Less	Equal
TC Impact 3.13-3	SU	Less	Less	Less	Equal
TC Impact 3.13-4	LS	Less	Less	Less	Equal
SECTION 3.14 - UTILITIES (UTL)					
UT Impact 3.14-1	SU	Less	Equal	Equal	Equal
UT Impact 3.14-2	LS	Less	Greater	Less	Equal
UT Impact 3.14-3	SU	Less	Equal	Equal	Equal
UT Impact 3.14-4	LS	Less	Equal	Less	Equal
UT Impact 3.14-5	SU	Less	Equal	Less	Equal
UT Impact 3.14-6	LS	Less	Less	Less	Equal

SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the significant effects on the environment. The CEQA Guidelines defines a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed Project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with regulations.

The environmental impacts of the proposed Project, the impact level of significance prior to mitigation, the proposed mitigation measures and/or adopted policies and standard measures that are already in place to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

This EIR analyzes the Specific Plan area at a programmatic level and the applicability of each mitigation measure will be determined based on the characteristics and relative fair share of impacts of each proposed development within the Plan Area. As a result, project specific mitigation monitoring and reporting programs may be prepared to identify which mitigation measures apply to each development application. In addition, additional mitigation measures may be imposed if an application shows potential impacts that were not analyzed or that exceed the analysis in this EIR. The City will review each subsequent application in accordance with the requirements under CEQA.

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
AESTHETICS			
Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character.	PS		SU
Impact 3.1-2: Project implementation may substantially damage scenic resources within a State Scenic Highway.	LS		LS
Impact 3.1-3: Project implementation may result in light and glare impacts.	LS		LS
AGRICULTURAL RESOURCES			
Impact 3.2-1: The proposed Specific Plan has the potential to result in the conversion of Farmlands, including Prime Farm land, Unique Farmland, and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses.	PS	***Mitigation Measure 3.2-1:*** *Prior to the issuance of grading permits, the Project applicant shall secure permanent protection of offsite farmland based on a 1:1 ratio to the amount of gross Farmland converted as a result of development, consistent with the requirements of the City's Sustainable Agricultural Strategy. The acreage requiring agricultural mitigation shall be equal to the portion of the site dedicated to residential uses which would be subject to the discretionary development entitlement and lands designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Permanent preservation shall consist of the purchase of agricultural conservation easements granted in perpetuity from willing seller(s), enforceable deed restrictions, purchase of banked mitigation credits, or other conservation mechanisms acceptable to the City. Land set aside for permanent preservation shall: (1) be of equal or better soil quality, have a dependable and sustainable supply of irrigation water, and be located within Stanislaus County; and (2) not be previously encumbered by a conservation easement of any nature.*	SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		The permanent protection of farmland shall be accomplished by either: (1) the landowner/developer working directly with an established farmland trust or similar organization, such as the Central Valley Farmland Trust, and providing certification satisfactory to the City that such lands have been permanently preserved at the specified ratio; or (2) working with a qualified land trust or similar organization, such as the Central Valley Farmland Trust, to establish a fee for agricultural land conservation easements. ***Mitigation Measure 3.2-2:*** *Prior to the conversion of agricultural lands in the Specific Plan Area, the Project applicant shall participate in the Stanislaus LAFCo's Agricultural Preservation Policy (as amended on March 27, 2019), consistent with the City's Sustainable Agricultural Strategy. The Project applicant shall prepare a "Plan for Agricultural Preservation", which shall include information such as the Project's direct and indirect impacts to agricultural resources, the availability of other lands in the City of Riverbank's existing boundaries, and relevant General Plan policies. The Plan shall also specify the method or strategy proposed to minimize the loss of agricultural lands. The information provided in the Plan shall be consistent with the environmental documentation prepared by the City.*	
Impact 3.2-2: The proposed Project has the potential to conflict with existing zoning for agricultural use, or Williamson Act Contracts.	LS		LS
Impact 3.2-3: The proposed Project has the potential to result in conflicts with adjacent agricultural lands or indirectly cause conversion of agricultural lands.	PS	***Mitigation Measure 3.2-3:*** *Prior to approval of any Final Maps, "Right to Farm" language shall be incorporated on the Final Map for approval and recordation against the affected property. The proposed language shall contain the following statement: "All persons purchasing lots within the boundaries of this approved map should be prepared to accept the inconveniences associated with agricultural operations, such as noise, odors, flies, dust or fumes. Stanislaus County has determined that such inconveniences shall not be considered to be a nuisance if agricultural operations are consistent with accepted customs and standards."*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
AIR QUALITY			
Impact 3.3-1: Project operations could result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, and could conflict or obstruct implementation of the District's air quality plan.	PS	***Mitigation Measure 3.3-1**:* *(a)* ***Overall Obligation of River Walk Specific Plan Project**. The collective present and future applicants for the development approvals within the overall River Walk Specific Plan Project shall together be required to ensure that criteria pollutant emissions for the overall River Walk Specific Plan Project do not exceed the SJVAPCD criteria pollutant thresholds for a single year. The required reductions can be achieved through a combination of on-site and/or off-site mitigation strategies.* *(b)* ***Individual Criteria Pollutant Reduction Plans (CPRPs).*** *i. Obligations of Each "Site" Within Overall Project. The obligation to reduce the overall criteria pollutant emissions of the River Walk Specific Plan Project may be achieved over time and incrementally in connection the City's approvals of discrete phases of development that are consistent with, and reflect, differing ownership interests within the overall Project area at the time of overall Project approval. These individual phases consist of each of the 18 individual villages and the four mixed use areas (i.e. Sites). Based on the respective levels of development being approved within these respective Sites, each Site's proportional share of required overall reduction is set forth in the Table below.* *ii. Process for Approval of Individual CPRPs. Each applicant for development approvals for each Site, or part of a Site, shall propose a Criteria Pollutant Reduction Plan (CPRP) that would achieve the entire Site's proportional share of the overall required reduction of criteria pollutant emissions, consistent with the percentages shown in the Table, which correspond with the acreages of each Site as a proportion of all Sites. City approval of the CPRP for a Site shall be required prior to City approval of the first grading permit for any*	LS

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<table>
<tr><th>ENVIRONMENTAL IMPACT</th><th>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</th><th>MITIGATION MEASURE</th><th>RESULTING LEVEL OF SIGNIFICANCE</th></tr>
<tr><td></td><td></td><td>

property within the Site. Each individual CPRP shall be approved, with modifications if deemed necessary, by the City's Community Development Director in consultation with SJVAPCD and/or a specialist Air Quality consultant retained by the Director at the applicant's expense.

<table>
<tr><th>Site</th><th>Acreage</th><th>Percentage Contribution (%)</th></tr>
<tr><td>Village A</td><td>83.08</td><td>12.74%</td></tr>
<tr><td>Village B</td><td>25.21</td><td>3.87%</td></tr>
<tr><td>Village C</td><td>59.76</td><td>9.17%</td></tr>
<tr><td>Village D</td><td>47.86</td><td>7.34%</td></tr>
<tr><td>Village E</td><td>34.51</td><td>5.29%</td></tr>
<tr><td>Village F</td><td>39.39</td><td>6.04%</td></tr>
<tr><td>Village G</td><td>22.62</td><td>3.47%</td></tr>
<tr><td>Village H</td><td>20.62</td><td>3.16%</td></tr>
<tr><td>Village I</td><td>10.02</td><td>1.54%</td></tr>
<tr><td>Village J</td><td>24.02</td><td>3.68%</td></tr>
<tr><td>Village K</td><td>37.16</td><td>5.70%</td></tr>
<tr><td>Village L</td><td>48.08</td><td>7.38%</td></tr>
<tr><td>Village M</td><td>19.11</td><td>2.93%</td></tr>
<tr><td>Village N</td><td>10.28</td><td>1.58%</td></tr>
<tr><td>Village O</td><td>24.89</td><td>3.82%</td></tr>
<tr><td>Village P</td><td>18.09</td><td>2.77%</td></tr>
<tr><td>Village Q</td><td>25.35</td><td>3.89%</td></tr>
<tr><td>Village R</td><td>25.21</td><td>3.87%</td></tr>
<tr><td>Mixed Use Area 1</td><td>44.02</td><td>6.75%</td></tr>
<tr><td>Mixed Use Area 2</td><td>8.07</td><td>1.24%</td></tr>
<tr><td>Mixed Use Area 3</td><td>7.28</td><td>1.12%</td></tr>
<tr><td>Mixed Use Area 4</td><td>8.01</td><td>1.23%</td></tr>
<tr><td>Mixed Use Area 5</td><td>5.35</td><td>0.82%</td></tr>
<tr><td>Mixed Use Area 6</td><td>4.04</td><td>0.62%</td></tr>
</table>

</td><td></td></tr>
</table>

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE

Mixed Use Area 6	*4.04*	*0.62%*
ROW	*63.37*	*0%*
Community Park	*15.42*	*0%*
BGOS, Park, Basin, Reserve	*790.60*	*0%*
Total	***1,521.41***	***100.0%***

Note: Right of way, community park, and bluff acreage were not included as a contribution, since this table is only designed to apportion responsibility for the overall required reduction in criteria pollutant emissions for each site/applicant.

iii. Appeals of CPRPs to Planning Commission and City Council. After the Community Development Director has approved a CPRP, the document shall be posted in a prominent place on the City's website, along with notice to the public that any interested party may file, within 10 business days of such approval, a written appeal of the Community Development Director's approval to the City Planning Commission. The CPRP approval and notice of the right to appeal shall be included within that portion of the City's website devoted to activities of the Planning Division (https://www.riverbank.org/211/Planning-Division). Upon the timely filing of such an appeal, the Planning Commission shall promptly schedule and hold a duly-noticed public hearing on the adequacy of the CPRP. Any decision of the Planning Commission approving, conditioning, or denying a CPRP may be appealed to the City Council within 10 days of the Planning Commission decision. Upon appeal, the City Council shall promptly schedule and hold a duly noticed public hearing on the adequacy of the CPRP. The decision of the City Council shall be final, but may include directives to the Community Development Director regarding changes to be made to the CPRP if deemed necessary.

iv. Possible Adjustments to Mandatory Emissions Reductions. The level of proportionate criteria pollutant reductions required for the CPRP for a particular Site may be adjusted downward or upward if the applicant seeking development approvals for a Site is proposing a greater or lesser

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		amount of development than was assumed in the EIR. Any such adjustments, however, shall be supported by rigorous technical analysis and/or other substantial evidence deemed sufficient by the Community Development Director. Adjustments may also be made in response to an evidentiary showing, based on substantial evidence persuasive to the Community Development Director, that the calculations of overall required criteria pollutant reductions used in the EIR are no longer accurate, or no longer represent the best available information, in light of improved criteria pollutant emissions modeling methodologies and/or improved energy conservation technologies, more stringent building codes, cleaner electricity sources, or other relevant factors. *v. Possible Strategies for Achieving Mandatory Reductions. The following is a non-exhaustive list of potential criteria pollutant mitigation strategies that could be implemented by individual Site applicants in their CPRPs in order to reduce the Sites' proportional shares of the overall requirement that the River Walk Specific Plan Project's CPRP emissions:* • *Implement cool roofs on project buildings.* • *Provide electric vehicle (EV) charging stations.* • *Encourage telecommuting and alternative work schedules.* • *Provide a bus rapid transit system.* • *Require that all residential units be constructed to use electric appliances exclusively, including water heaters.* • *Except for commercial retail uses, design and orient a minimum of seventy-five percent (75%) of the Site's total non-residential building footprint such that one axis of the building is at least one-and-one-half (1.5) times longer than the other, and the other axis is within fifteen (15) degrees of geographical east-west.* • *Require that one-hundred percent (100%) of non-residential roof area be constructed with either vegetated*	

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		('green') roof, or roofing materials with a high solar reflectance value, or a combination of both, provided that nothing in this subsection shall limit the use of roof area for renewable energy generation systems, such as solar thermal collectors or photovoltaics. • *Pre-wire residential structures so that future homeowners or residents can elect to purchase and install electric car charging equipment.* • *Provide induction stoves in new residential units.* • *Pre-wire parking lots for multi-family, business professional/commercial, and retail/commercial land uses to allow for more electric vehicle charging facilities than are required by building codes.* • *Provide more electric vehicle charging facilities within parking lots for multi-family, business professional/commercial, and retail/commercial land uses than are required by building codes.* • *Applicable measures identified in guidance from the SJVAPCD, if any, and/or in guidance provided by CARB, other regional air districts such as the Sacramento Metropolitan Air Quality Management District, the Bay Area Air Quality Management District, and the South Coast Air Quality Management District.* *vi. Flexibility to Consider Improving Technologies. Due to ever-changing technologies, any other quantifiable criteria pollutant reduction measures shall be allowed under this measure, subject to the approval by the City Community Development Director in consultation with the SJVAPCD and/or an air quality GHG consultant retained by the Director at the applicant's expense.* ***Mitigation Measure 3.3-2**: The SJVAPCD recommends an Ambient Air Quality Analysis (AAQA) be developed for individual development projects that exceed 100 pounds per day*	

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		of any pollutant. Prior to the approval of each individual development project (i.e. final maps, improvement plans, site plan review, etc.), each project applicant shall develop an AAQA (including both permitted and non-permitted equipment and activities) using dispersion modeling to determine if increases from the individual development project would cause or contribute to violation of State or National Air Quality Standards. The project applicant(s) shall consult with the SJVAPCD to determine the appropriate model and input data to use in the analysis for each individual project. ***Mitigation Measure 3.3-3:*** *Prior to the commencement of construction activities for the project each individual development project, the project applicant(s) for each development project shall prepare and submit a Rule 9510 Indirect Source Review application that meets all SJVAPCD requirements, as applicable.*	
Impact 3.3-2: Proposed Project construction activities could result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, and could conflict or obstruct implementation of the District's air quality plan.	LS		LS
Impact 3.3-3: The proposed Project would not generate carbon monoxide hotspot impacts.	LS		LS
Impact 3.3-4: The proposed Project has the potential for public exposure to toxic air contaminants.	PS	***Mitigation Measure 3.3-4:*** *Prior to issuance of building permits or commencing operation of any commercial building/use that would emit toxic air contaminants (such as gas stations or drycleaning operations), the project applicant(s) for each individual development project shall, at a minimum, perform prioritization screening in accordance with the Air Toxics "Hot Spots" Program, Facility Prioritization Guidelines (July 1990) and the Air Toxics "Hot Spots" Information and Assessment Act. The prioritization screening shall be performed in accordance with the California Air Pollution Control Officers Association Air Toxic "Hot Spots" Program guidance. The prioritization screening shall also be conducted consistent*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		with the guidance provided by the San Joaquin Valley Air Pollution Control District (SJVAPCD), which will be responsible for determining which facilities, based on their prioritization screening score, must perform a health risk assessment. In determining the need to prepare a health risk assessment, the SJVAPCD considers the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, and any other factors specific to the facility that indicate that it may pose a significant health risk. *If a health risk assessment is warranted for a facility based on its prioritization score, the project applicant shall assess the facilities for the potential to expose the public to toxic air contaminants in excess of the applicable thresholds (utilizing an air dispersion modelling program such as AERMOD). As of the time of this writing, the commonly accepted threshold for cancer risk is 10 in a million for carcinogens, and the reference exposure level for non-carcinogens (HI = 1). Facilities that exceed the applicable threshold(s) have the potential to expose the public to toxic air contaminants levels that would be considered significant. Facilities that exceed the applicable threshold(s) must incorporate mitigation to reduce the risks from emission of toxic air contaminants to an acceptable level (i.e., to a level that does not exceed the applicable threshold[s]). Potential mitigation includes: reducing the size of the facility area; rearranging the site to reduce the potential for impacts on the nearest sensitive receptors; and utilizing products that reduce the level of toxic air contaminants, or removal of such products from the operational phase of the project.*	
Impact 3.3-5: The proposed Project would not cause exposure to other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LS		LS
BIOLOGICAL RESOURCES			

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.4-1: The potential to have a substantial direct or indirect effect on special-status invertebrate species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed species, elimination of an animal community, or a drop in population levels below self-sustaining levels.	PS	***Mitigation Measure 3.4-1:*** *Prior to disturbance of each village, the Project applicant shall conduct a survey of the area to be disturbed for VELB habitat (elderberry), and if present, including a stem count and an assessment of VELB use (presence of bore holes);* • *All VELB habitat should be avoided within a natural open space area except where such habitat is located either within the Project's approved development footprint or in an area that must be disturbed in order to facilitate approved development; and* • *Where elderberry shrubs occupied with VELB cannot be avoided because it is located either within the Project's approved development footprint or in an area that must be disturbed in order to facilitate approved development, then the applicant shall notify the City and consult with USFWS in order to develop a VELB mitigation plan in accordance with the most current USFWS mitigation guidelines for unavoidable take of VELB habitat pursuant to either Section 7 or Section 10(a) of the Federal Endangered Species Act. At a minimum, the removal of elderberry shrubs found to be occupied with VELB shall be mitigated through the purchase of one (1) VELB mitigation credit from an agency-approved mitigation bank for each occupied shrub removed or through the planting of five (5) elderberry seedlings and five (5) native California trees or shrubs at a USFWS-approved location for each shrub removed. If the latter option is selected, then the seedlings and associated natives shall achieve an 80% survival rate measured at the end of a five (5) year monitoring period.* ***Mitigation Measure 3.4-2:*** *The Project applicant shall implement the following measure to avoid or minimize impacts on special-status bumble bees:* • *A qualified biologist(s) shall conduct a preconstruction survey with seven (7) days of the commencement of work. If special-status bees of any species are observed, they shall be photographed for identification. If construction begins between March 1 and November 1, the ground shall also be searched during the survey for active bumble bee colonies. If bee colonies are identified, these colonies shall be*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		demarcated with a flagged avoidance buffer, as determined by a qualified biologist and shall be avoided during the active season from March 1 through November 1, or until the qualified biologist has determined that the colony is no longer active or until the colony is relocated.	
Impact 3.4-2: The potential to have substantial direct or indirect effects on special-status reptile and amphibian species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed species, elimination of a reptile or amphibian community, or a drop in population levels below self-sustaining levels.	PS	***Mitigation Measure 3.4-3:*** *Prior to grading of each village, the Project applicant shall conduct a survey of the area to be graded for western pond turtle, and if present, the Project applicant shall implement the following measures to avoid or minimize impacts on western pond turtle:* • *A preconstruction survey for western pond turtles within aquatic habitats and adjacent suitable uplands to be disturbed by project activities shall be conducted by a qualified biologist. In aquatic habitats which may be dewatered during project construction, surveys shall be conducted immediately after dewatering and before any subsequent disturbance. Elsewhere, surveys shall be conducted within 24 hours before project disturbance.* • *If pond turtles are found during preconstruction surveys, a qualified biologist, in consultation with CDFW, shall move the turtles to the nearest habitat of equivalent or greater value (e.g., upland habitats may include riparian wetlands or riparian woodlands, and aquatic habitats may include irrigation ditches or the Stanislaus River) outside the area subject to project disturbance. The construction area shall be reinspected whenever a lapse in construction activity of 2 weeks or more has occurred.* • *Construction personnel performing activities within aquatic habitats and adjacent suitable uplands to be disturbed by project activities shall receive worker environmental awareness training from a qualified biologist to instruct workers to recognize western pond turtle, their habitats, and measures being implemented for its protection.* • *Construction personnel shall observe a 15-miles-per-hour speed limit on unpaved roads.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		Mitigation Measure 3.4-4: *The Project applicant shall implement the following measures to avoid or minimize impacts on giant garter snake (GGS):* • *In areas within 200 feet of any irrigation ditch (potential GGS aquatic habitat) construction will occur during the GGS active season of May 1 through October 1.* • *Construction personnel shall receive worker environmental awareness training to instruct workers to recognize giant garter snake and their habitats.* • *Within 24 hours before construction activities, areas within 200 feet of any irrigation ditch (potential GGS aquatic habitat) shall be surveyed for giant garter snake. The survey shall be repeated if a lapse in construction activity of 2 weeks or greater has occurred. If a giant garter snake is encountered during construction, activities within 200 feet of the irrigation ditches shall cease until appropriate corrective measures have been completed or it is determined by the qualified biologist and City staff, in coordination with USFWS and CDFW, that the giant garter snake shall not be harmed. Appropriate corrective actions could involve installation of exclusion fencing, a full-time monitor, establishing a "tractor keep out zone", or other measures specifically designed by the biologist based on the circumstances of the construction site. Any sightings or incidental take shall be reported to USFWS and CDFW immediately.* • *A biological onsite monitor will be present during initial ground-disturbing activities within 200 feet of any irrigation ditch or potential GGS habitat within the Plan Area* • *Construction vehicles would require low-speed limits within such sites to lessen the probability that the species could be run over by vehicles and equipment.* • *Any aquatic habitat for the snake that is dewatered shall remain dry for at least 15 consecutive days after April 15 and before excavating or filling of the dewatered habitat. If complete dewatering is not possible, potential snake prey (e.g., fish and tadpoles) will be removed so that snakes and other wildlife are not attracted to the construction area.*	

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		• *Giant garter snake aquatic habitat to be avoided (i.e., irrigation ditches) within or adjacent to construction areas will be fenced and designated as environmentally sensitive areas. These areas shall be avoided by all construction personnel.*	
Impact 3.4-3: The potential to have substantial direct or indirect effects on special-status bird species, including through substantial reduction of habitat, substantial reduction or restriction in the range of a listed species, elimination of a bird community, or a drop in population levels below self-sustaining levels.	PS	***Mitigation Measure 3.4-5:*** *The Project applicant shall implement the following measure to avoid or minimize impacts on western burrowing owl:* • *No less than 14 days before initiating ground disturbance activities, the Project applicant shall complete an initial take avoidance survey. Implementation of avoidance and minimization measures would be triggered if the initial take avoidance survey results in positive owl presence in the Project Area where project activities shall occur. If needed, the development of avoidance and minimization approaches shall be developed in coordination with CDFW.* • *Permanent loss of burrowing owl foraging habitat shall be compensated for by preservation and management of foraging habitat of at least a similar quality and equivalent acreage at a biologically appropriate location. An example of similar quality shall be cropland for cropland, grassland for grassland, etc. An example of an appropriate location would be within the breeding range of burrowing owl in the Central Valley. The mitigation shall be documented in a mitigation plan that identifies the mitigation site, compensation acreage, performance criteria, and monitoring and management requirements to ensure the site provides suitable habitat for the applicable species. Long-term protection of mitigation lands shall be ensured through fee title acquisition, conservation easement, or other suitable mechanisms. Long-term management of mitigation lands shall be ensured by establishing a management endowment or other suitable funding source. It is anticipated that mitigation land would also function to mitigate for other species requiring mitigation land with similar characteristics (i.e. Swainson's hawk). In other words, the same acreage could function as mitigation for more than one species.*	LS

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		Mitigation Measure 3.4-6: *The Project applicant shall implement the following measures to avoid or minimize impacts on Swainson's hawk:* • *No more than 30 days before the commencement of construction, a qualified biologist shall perform preconstruction surveys for nesting Swainson's hawk and other raptors during the nesting season (February 1 through August 31).* • *Appropriate buffers shall be established and maintained around active nest sites during construction activities to avoid nest failure as a result of project activities. The appropriate size and shape of the buffers shall be determined by a qualified biologist, and may vary depending on the nest location, nest stage, and construction activity. In determining the size of the buffers, the qualified biologist shall take into consideration the natural history of the Swainson's hawk, the proposed activity level adjacent to the nest, the nest occupants' habituation to existing or ongoing activity, nest concealment (i.e., whether there are visual or acoustic barriers between the proposed activity and the nest), and what (if any) nest monitoring is proposed. The buffers may be adjusted if a qualified biologist determines, based on these same considerations, that a change in the buffer size would not be likely to adversely affect the nest. Monitoring shall be conducted to confirm that project activity is not resulting in detectable adverse effects on nesting birds or their young. No project activity shall commence within the buffer areas until a qualified biologist has determined that the young have fledged or the nest site is otherwise no longer in use.* • *Before the commencement of construction, the Project applicant shall provide compensatory mitigation for the permanent loss of Swainson's hawk foraging habitat. Loss of Swainson's hawk foraging habitat shall be compensated for by preservation and management of foraging habitat of at least a similar quality at an appropriate location. An example of similar quality shall be cropland for cropland, grassland for grassland, etc. An example of an appropriate location would be within the breeding range of Swainson's hawk in the Central Valley. The*	

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		mitigation shall be documented in a mitigation plan that identifies the mitigation site, compensation acreage, performance criteria, and monitoring and management requirements to ensure the site provides suitable habitat for the applicable species. Long-term protection of mitigation lands shall be ensured through fee title acquisition, conservation easement, or other suitable mechanisms. Long-term management of mitigation lands shall be ensured by establishing a management endowment or other suitable funding source. It is anticipated that mitigation land would function to mitigate for other species requiring such mitigation land (i.e. burrowing owl). • *To mitigate for the loss of foraging habitat (as specified in this document), the project applicant shall compensate based on the following ratios:* *(a) Portions of the project within 1 mile of an active nest tree shall provide: ·* ▪ *one acre of either lands protected through fee title acquisition or conservation easement (acceptable to the CDFW) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk for each acre of development authorized (1:1 ratio); or ·* ▪ *One-half acre of either lands protected through fee title acquisition or conservation easement (acceptable to the CDFW) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk for each acre of development authorized (0.5:1 ratio).* *(b) Portions of the project within 5 miles of an active nest tree but greater than 1 mile from the nest tree shall provide 0.75 acres of either lands protected through fee title acquisition or conservation easement (acceptable to the CDFW) on agricultural lands or other suitable habitats which provide foraging habitat*	

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		for Swainson's hawk for each acre of development authorized <u>for each acre of urban development authorized (0-75:1 ratio).</u> *(c) <u>Portions of the project within 10 miles of an active nest tree but greater than 5 miles from an active nest tree shall provide 0.5 acres of</u> either lands protected through fee title acquisition or conservation easement (acceptable to the CDFW) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk for each acre of development authorized <u>(0.5:1 ratio).</u>* ***Mitigation Measure 3.4-7:** The Project applicant shall implement the following measure to avoid or minimize impacts on other protected bird species that may occur on the site:* • *Preconstruction surveys for active nests of special-status birds shall be conducted by a qualified biologist in all areas of suitable habitat within 500 feet of project disturbance. Surveys shall be conducted within 14 days before commencement of any construction activities that occur during the nesting season (February 15 to August 31) in a given area.* • *If any active nests, or behaviors indicating that active nests are present, are observed, appropriate buffers around the nest sites shall be determined by a qualified biologist to avoid nest failure resulting from project activities. The size of the buffer shall depend on the species, nest location, nest stage, and specific construction activities to be performed while the nest is active. The buffers may be adjusted if a qualified biologist determines, based on these same considerations, that a change in buffer size would not be likely to adversely affect the nest. If buffers are adjusted, monitoring will be conducted to confirm that project activity is not resulting in detectable adverse effects on nesting birds or their young. No project activity shall commence within the buffer areas until a qualified biologist has determined that the young have fledged or the nest site is otherwise no longer in use.*	

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Impact 3.4-4: The potential to for substantial direct or indirect effects on special-status mammal species, including through substantial reduction of habitat, substantial reduction of the number or restriction of the range of a listed species, elimination of a mammal community, or a drop in population levels below self-sustaining levels.	PS	***Mitigation Measure 3.4-8:*** *Prior to grading of each village, the Project applicant shall conduct a survey of the area to be graded for bat roosts, and if present, the Project applicant shall implement the following measures to avoid or minimize impacts on special-status bats:* • *If removal of suitable roosting areas (i.e., buildings, trees, shrubs, bridges, etc.) must occur during the bat pupping season (April 1 through July 31), surveys for active maternity roosts shall be conducted by a qualified biologist. The surveys shall be conducted from dusk until dark.* • *If a special-status bat maternity roost is located, appropriate buffers around the roost sites shall be determined by a qualified biologist and implemented to avoid destruction or abandonment of the roost resulting from habitat removal or other project activities. The size of the buffer shall depend on the species, roost location, and specific construction activities to be performed in the vicinity. No project activity shall commence within the buffer areas until the end of the pupping season (August 1) or until a qualified biologist confirms the maternity roost is no longer active.* • *If a non-maternal roost is located, eviction and exclusion techniques shall be conducted as recommended by the qualified biologist. Methods may include opening the roosting area to change the air flow and lighting, installing one-way doors, or other appropriate methods that allow the bats to exit and find a new roost. After eviction is believed to be completed, acoustic monitoring, and an evening emergence survey shall be performed by the qualified biologist to ensure eviction is complete. For tree removal, a two-step tree removal process involving removal of all branches that do not provide roosting habitat on the first day, and then the next day cutting down the remaining portion of the tree.*	LS

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Impact 3.4-5: The potential for substantial direct or indirect effects on candidate, sensitive, or special-status plant species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed species, elimination of a plant community, or a drop in population levels below self-sustaining levels.	LS		LS
Impact 3.4-6: The potential to cause a substantial adverse effect on protected wetlands and jurisdictional waters.	PS	***Mitigation Measure 3.4-9****: If construction activities would disturb the agricultural ditch within the Project Area, the property owner/applicant proposing the activity shall verify with federal and state regulators that the facility is non-jurisdictional or qualifies under the agricultural ditch exemption. If the facilities do not qualify for the exemption and are determined to be jurisdictional by the regulatory agencies, any fill activity would require authorization for fill from the regulatory agencies (USACE-404 permit, RWQCB-401 certification, 1600 Streambed Alteration Agreement). All requirements of a permit shall be adhered to throughout the construction phase. Any compensatory mitigation would be specified by the regulatory agency through the permit process.*	LS
Impact 3.4-7: The potential to result in adverse effects on riparian habitat or other sensitive natural community.	LS		LS
Impact 3.4-8: The potential to result in interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	LS		LS

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Impact 3.4-9: The potential to conflict with an adopted Habitat Conservation Plan.	PS	***Mitigation Measure 3.4-10**: Prior to commencement of any ground disturbance activities associated with the Offsite Sewer Line, the Project proponent shall obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species for the portion of the Offsite Sewer Line within San Joaquin County. Coverage involves compensation for habitat impacts on covered species through implementation of incidental take and minimization Measures (ITMMs) and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.*	LS
Impact 3.4-10: The potential to conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	PS	***Mitigation Measure 3.4-11:** Prior to and during construction, the Project applicants shall comply with Chapter 156, Oak and Landmark Tree Preservation, of the Riverbank Municipal Code, which calls for the conservation and protecting of existing landmark trees and oak trees within the City. Landmark trees are defined under Section 156.02 of the Code as: Trees that are: (1) six inches or greater in diameter at breast height (DBH); and (2) in good health; and (3) of preferred species in order: (a) oak, (b) deciduous and (c) evergreen; (4) other such trees with significant impact (including but not limited to: age, size, location, outstanding habitat value, superior beauty, historical and/or cultural significance) on the surrounding area. Landmark Tree may also mean an "oak tree." Fruit trees and other trees used for agricultural purposes and production on existing lots created prior to June 8, 2006, are specifically excluded as being landmark trees. Additionally, oak trees are defined as a valley oak tree (Quercus lobata) with a trunk diameter of two inches or greater at a point 4.5 feet above the root crown (also referred to as "two inches diameter breast height [DBH]"). Oak tree may also mean a "landmark tree."* *Pursuant to Section 156.12, prior to submission of an application for development, the applicant is encouraged to meet with the Community Development Director to discuss the tree protection ordinance as it relates to the applicant's property. Should removal of*	LS

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		protected trees be required, the permit applicant requirements in Section 156.12 of the Code shall be followed. *Further, pursuant to Section 156.14 of the Code, the following methods and standards for tree protection shall be implemented during construction activities:* *(A) Trees identified to be preserved shall have four-foot, orange-colored tree-protection fencing installed at the critical root zones.* *(B) (1) No person engaged in the construction of any structure(s) or improvement(s) or any activity shall encroach or place solvents, material, construction machinery or temporary soil deposits within six (6) feet of the area outside the critical root zone, as defined herein, of any existing significant tree within a tree save area, transitional or undisturbed buffer zone.* *(2) When proposed developments encroach into the crown dripline area of any landmark/oak tree, special construction to allow the roots to breathe and obtain water shall be engineered and implemented, as determined by the Community Development Director.* *(C) All tree protection devices must remain in functioning condition until the project is completed or until the certificate of occupancy is issued.* *(D) (1) Any tree designated in the plan to be saved, which is negligently damaged during construction or as a result of negligent construction, as determined by the arborist, shall be treated according to accepted National Arborists Association Standards.* *(2) If fatally damaged, trees shall he replaced with six-inch-caliper trees equal to five times the diameter of the tree removed*	

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CULTURAL AND TRIBAL RESOURCES			
Impact 3.5-1: Project implementation has the potential to cause a substantial adverse change to an historical resource as defined in CEQA Guidelines §15064.5, a unique archaeological resource as defined in Public Resources Code section 21083.2, or a tribal cultural resource, as defined in Public Resources Code §21074.	PS	***Mitigation Measure 3.5-1:*** *Resources ML-20-2 and ML-20-3 shall be avoided and protected in some manner either through design, site capping, and/or inclusion in a park. Protection shall be provided prior to initiation of the construction phase, with long term measures designed for permanent preservation. Consultation shall occur with appropriate Native American groups to ensure the selected measures are acceptable to appropriate groups with ethnic ties to the area.* ***Mitigation Measure 3.5-2:*** *All construction workers shall receive a cultural resources sensitivity training session before they begin site work in order to identify any potentially significant cultural or similar resources that may result during construction. The sensitivity training session shall be instructed by a professional archaeologist, and shall include discussion of the statutory criteria for defining unique archaeological resources, historical resources of an archaeological nature, and tribal cultural resources. The sensitivity training shall inform the workers of their responsibility to identify and protect any cultural resources, including prehistoric or historic artifacts, or other indications of archaeological resources, discovered during construction. The sensitivity training shall cover laws pertaining to cultural resources, examples of cultural resources that may be discovered, and what to do if a cultural resource, or anything that may be a cultural resource, is discovered.* *If any cultural resources, including prehistoric or historic artifacts, or other indications of archaeological resources, are found during grading and construction activities during any phase of the Project, all work shall be halted immediately within a 200-foot radius of the discovery until an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).* *The following notifications and measures shall apply to potential unique archaeological resources, potential historical resources of an archaeological nature, and potential tribal cultural resources, depending on the nature of the find:* • *If the professional archaeologist determines that the find clearly does not represent a cultural resource that might qualify as a unique archaeological*	LS

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		resource, an historical resource of an archaeological nature, or a tribal cultural resource, work may resume immediately and no agency notifications are required. • *If the professional archaeologist determines that the find does represent a cultural resource that might qualify as a unique archaeological resource, an historical resource of an archaeological nature, or a tribal cultural resource, he or she shall immediately notify the City's Community Development Director (CDD) and applicable landowner, and, in the case of a potential tribal cultural resource, a tribal representative from an ethnically appropriate group with Northern Valley Yokuts heritage in order to give such a person an opportunity to participate.* • *With respect to finds that may qualify as a unique archaeological resource or an historical resource of an archaeological nature (but not a tribal cultural resource), the professional archaeologist and a representative from the City CDD shall consult to determine whether any unique archaeological resources or historical resources of an archaeological nature are present, in part based on a finding of eligibility for inclusion in the NRHP or CRHR. If it is determined that unique archaeological resources or historical resources of an archaeological nature are present, the qualified archaeologist shall develop mitigation or treatment measures for consideration and approval by the City CDD. Mitigation shall be developed and implemented in accordance with Public Resources Code Section 21083.2 and Section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. Consistent with Section 15126.4(b)(3), preservation in place may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If approved by the City CDD, such measures shall be implemented and completed prior to commencing further work for which grading or building permits were issued, unless otherwise directed by the City CDD. Avoidance or preservation of unique archaeological resources or historical resources of an archaeological nature shall not be required where such avoidance or preservation in place would preclude the construction of important structures or infrastructure or require exorbitant expenditures, as determined by the City CDD. Where avoidance or preservation are not appropriate for these reasons, the professional archaeologist, in*	

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		consultation with the City CDD, shall prepare a detailed recommended a treatment plan for consideration and approval by the City CDD, which may include data recovery. If employed, data recovery strategies for unique archaeological resources that do not also qualify as historical resources of an archaeological nature shall follow the applicable requirements and limitations set forth in Public Resources Code Section 21083.2. Data recovery will normally consist of (but would not be limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim of recovering important scientific data contained within the unique archaeological resource or historical resource of an archaeological nature. The data recovery plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and State repositories, libraries, and interested professionals. If data recovery is determined by the City CDD to not be appropriate, then an equally effective treatment shall be proposed and implemented. Work may not resume within the no-work radius until the City CDD, in consultation with the professional archaeologist, determines that the site either: 1) does not contain unique archaeological resources or historical resources of an archaeological nature; or 2) that the preservation and/or treatment measures have been completed to the satisfaction of the City CDD. • *With respect to finds that may qualify as a tribal cultural resource, the professional archaeologist and a representative from the City CDD shall consult with a tribal representative from an ethnically appropriate group with Northern Valley Yokuts heritage, if one has chosen to participate, to determine whether any tribal cultural resources are present, in part based on the criteria set forth in Public Resources Code section 21074. If it is determined that tribal cultural resources are present, the qualified archaeologist, in consultation with any participating tribal representative, shall develop mitigation or treatment measures for consideration and approval by the City CDD. In doing so, the qualified archaeologist shall give great weight to the wishes of the tribal representative, if one is participating. Mitigation shall be developed with a preference for preservation in place and with reference to the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage*	

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		Commission. Preservation in place may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If approved by the City CDD, measures involving avoidance and/or preservation in place shall be implemented and completed prior to commencing further work for which grading or building permits were issued, unless otherwise directed by the City CDD. Avoidance or preservation of a tribal cultural resource shall not be required where such avoidance or preservation in place would preclude the construction of important structures or infrastructure or require exorbitant expenditures, as determined by the City CDD. Where avoidance or preservation are not appropriate for these reasons, the professional archaeologist, in consultation with the City CDD and any participating tribal representative, whose input shall be given great weight, shall prepare a detailed recommended a treatment plan for consideration and approval by the City CDD, which may include data recovery. Data recovery may consist of (but would not be limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim of recovering important scientific data contained within the unique archaeological resource or historical resource of an archaeological nature. The data recovery plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data to an institution identified by the participating tribal representative, if any, or at an approved facility, and dissemination of reports to local and State repositories, libraries, and interested professionals. If data recovery is determined by the City CDD to not be appropriate, then an equally effective treatment shall be proposed and implemented. Work may not resume within the no-work radius until the City CDD, in consultation with the professional archaeologist, determines that the site either: 1) does not contain tribal cultural resources; or 2) that the preservation and/or treatment measures have been completed to the satisfaction of the City CDD.	
Impact 3.5-2: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries.	PS	***Mitigation Measure 3.5-3:*** *If human remains are discovered during the course of construction during any phase of the Project, work shall be halted at the site and at any nearby area reasonably suspected to overlie adjacent human remains until the Stanislaus*	LS

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		County Coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are of Native American origin, either of the following steps, subject to statutory time limitations, will be taken: • *The Coroner shall contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner shall make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.* • *The landowner shall retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:* o *The Native American Heritage Commission is unable to identify a descendent.* o *The descendant identified fails to make a recommendation.* o *The City of Riverbank or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*	
GEOLOGY AND SOILS			
Impact 3.6-1: The proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known	LS		LS

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earthquake fault, strong seismic ground shaking, seismic related ground failure, or landslides.			
Impact 3.6-2: Implementation and construction of the proposed Project may result in substantial soil erosion or the loss of topsoil.	PS	***Mitigation Measure 3.6-1:*** *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation for each phase of the Project, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Riverbank and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*	LS
Impact 3.6-3: The proposed Project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of Project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse.	LS		LS
Impact 3.6-4: The proposed Project has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform	LS		LS

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Building Code (1994), creating substantial direct or indirect risks to life or property.			
Impact 3.6-5: The proposed Project has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	PS	***Mitigation Measure 3.6-2:*** *If subsurface deposits believed to be paleontological in origin are found during grading and construction activities of the Project, work shall be halted immediately within 50 meters (165 feet) of the discovery and the City of Riverbank Community Development Director (CDD) shall be notified. Work shall not continue at the discovery site until a qualified paleontologist evaluates the find to determine whether it includes or constitutes a unique paleontological resource and, if it is, formulates mitigation recommendations for consideration and approval by the City CDD. A unique paleontological resource means a paleontological resource about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one of the two following criteria: (1) contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; or (2) has a special and particular quality such as being the oldest of its type or the best available example of its type. Mitigation options shall include preserving the resource in place or recovering data and creating documentation for transmission to the University of California Museum of Paleontology. Avoidance or preservation in place of unique paleontological resources shall not be required where such avoidance or preservation would preclude the construction of important structures or infrastructure or require exorbitant expenditures, as determined by the City CDD.*	LS
GREENHOUSE GASES, CLIMATE CHANGE AND ENERGY			
Impact 3.7-1: Project implementation would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or to conflict with an applicable plan, policy, or regulation adopted for	PS	***Mitigation Measure 3.7-1****:* *a)* ***Project-Specific Requirements****. The Project applicants shall be required to reduce Project GHG emissions to the maximum extent feasible by incorporating the following onsite measures:*	SU

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the purpose of reducing the emissions of greenhouse gases.		*a) Construction Emissions. Prior to the issuance of grading permits, the Project sponsor or its designee shall provide evidence to the City of Riverbank that the following strategies are implemented:* *i. Use electric or hybrid powered equipment for generators and other small pieces of equipment (e.g., forklifts and saws), as commercially available.* *ii. Use cleaner-fuel equipment such as replacing diesel fuel with compressed natural gas (CNG) or renewable diesel, as commercially available.* *iii. Reduce idling time of heavy-duty trucks either by shutting them off when not in use or reducing the time of idling to no more than 3 minutes (5-minute limit is required by the state airborne toxics control measure 13 CCR 2485).* *Commercially available equipment is herein defined as equipment sourced within 50 vehicle miles of the Project site and within 10% of the cost of the diesel-fueled-equivalent equipment. The Project Applicant must contact at least 3 contractors or vendors within Stanislaus County and submit to the City justification if the specified equipment is not commercially available.* *b) Operational Emissions.* *i. Require Energy Efficient Appliances. Prior to the issuance of building permits, the Project sponsor or its designee shall provide evidence to the City that exclusively ENERGY STAR-certified appliances shall be installed, which exceed the energy efficiency of conventional appliances.* *ii. Outdoor Electrical Outlets. Prior to the issuance of building permits, the Project sponsor or its designee shall provide evidence to the City of Riverbank that the design plans include electrical outlets in the front and rear of the structure to facilitate use of electrical lawn and garden equipment.*	

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		iii. Tree Planting. Prior to the applicable certificates of occupancy, the Project sponsor or its designee shall plant, at a minimum, one tree per every new residential dwelling unit proposed. Tree species should be black or valley oak, or another broad leaf species with at least an equivalent carbon sequestration rate. The Project sponsor shall demonstrate that at least 75% of species planted are native to California or drought tolerant and appropriate for the climate zone region. These trees can be planted roadside, in medians, or in other commonly landscaped areas. *iv. Water Use Efficiency and Water Conservation. Prior to the issuance of building permits, the Project sponsor or its designee shall provide evidence to the City that the residential building design plans include the following water use efficiency and conservation measures, including:* • *High-efficiency appliances/fixtures to reduce water use, and/or include water-efficient landscape design* • *Low-flow or high-efficiency water fixtures* • *Water-efficient landscapes with lower water demands than required by the California Department of Water Resources (DWR) 2015 Model Water Efficient Landscape Ordinance (MWELO)* • *Planting of drought-tolerant plant species only* • *Provide a copy of the educational materials that will be provided to future homeowners and tenants about water saving behaviors and water-conserving landscaping with sales material for City review.* • *Installation of piping to allow future use of reclaimed water for landscaping purposes in all park areas.* *v. Circulation. The Project sponsor or its designee shall include the following features to reduce VMT:* • *Install sidewalks and crosswalks where appropriate and consistent with City requirements.*	

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		• *Install new or improved bicycle paths and bicycle racks at community destination locations such as parks and community recreation areas.* • *Sales and rental packets shall include information about local public transit.*	
Impact 3.7-2: Project implementation could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	PS		SU
Impact 3.7-3: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources.	LS		LS
Impact 3.7-4: The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LS		LS
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.8-1: Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	PS	*Implement **Mitigation Measure 3.6-1**.* ***Mitigation Measure 3.8-1**: Prior to approval of a final map on any property in the Specific Plan Area, with the exception of the Berghill property, the Project Applicant shall submit a Phase I ESA for the property. The purpose of the Phase I ESA is to supplement the research and analysis that has already been prepared for this area as part of the CEQA Hazards Assessment which is limited to database searches, aerial reconnaissance, and literature and map review. While no evidence of an environmental concern has been encountered, the Hazards Assessment did not include site investigation or property owner questionnaires/interviews of property outside the Berghill property. The Berghill property is*	LS

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		excluded for this mitigation measure because a Phase 1 ESA has already been prepared for this property. ***Mitigation Measure 3.8-2***: *Prior to approval of a final map on all properties in the Specific Plan Area, the Project Applicant shall hire a qualified consultant to perform additional soil and site testing. There may be additional areas identified in the Phase I ESAs prepared for areas outside the Berghill Property in accordance with Mitigation Measure 3.8-1; however, the following areas of the Berghill Property have already been deemed to have potentially hazardous conditions present:* • *The residential units and adjoining structures.* • *The remnant construction and/or farming materials (i.e. remnant pipes, etc.).* • *The soils in the area where farming equipment and above ground tanks have been stored.* *The intent of the additional testing is to investigate whether any buildings, facilities, or soils contain hazardous materials, including petroleum products, agrichemical (including pesticides, herbicides, diesel, petrochemicals, etc.), asbestos, etc.* *A soil sampling and analysis workplan shall be submitted for approval the Stanislaus County Department of Environmental Resources prior to the work. The sampling and analysis plan shall meet the requirements of the Department of Toxic Substances Control Interim Guidance for Sampling Agricultural Properties (2008), and the County Department of Environmental Resources Recommended Soil and Groundwater Sampling for Underground Tank Investigations (2013).* *If the sampling results indicate the presence of agrichemicals that exceed commercial screening levels, a removal action workplan shall be prepared in coordination with Stanislaus County Department of Environmental Resources. The removal action workplan shall include a detailed engineering plan for conducting the removal action, a description of the onsite contamination, the goals to be achieved by the removal action, and any*	

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		alternative removal options that were considered and rejected and the basis for that rejection. A no further action letter shall be issued by Stanislaus County Department of Environmental Resources upon completion of the removal action. The removal action shall be deemed complete when the confirmation samples exhibit concentrations below the commercial screening levels, which will be established by the agencies. *If asbestos-containing materials and/or lead are found in buildings, an Operations and Maintenance (O&M) Program shall be implemented in order to safely manage the suspect ACMs and LBP located at the subject property, and a California Occupational Safety and Health Administration (Cal/OSHA) certified asbestos containing building materials (ACBM) and lead based paint contractor shall be retained to remove the asbestos-containing materials and lead in accordance with EPA and Cal/OSHA standards. In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Cal/OSHA asbestos and lead worker construction standards. The ACBM and lead shall be disposed of properly at an appropriate offsite disposal facility.* ***Mitigation Measure 3.8-3**: Prior to bringing hazardous materials onsite, the applicant shall submit a Hazardous Materials Business Plan (HMBP) to the Stanislaus County Division of Environmental Resources (CUPA) for review and approval. If during the construction process the applicant or any subcontractors generates hazardous waste, the applicant must register with the CUPA as a generator of hazardous waste, obtain an EPA ID# and accumulate, ship and dispose of the hazardous waste per Health and Safety Code Ch. 6.5. (California Hazardous Waste Control Law).* ***Mitigation Measure 3.8-4**: Prior to initiation of any ground disturbance activities within 50 feet of a well, the applicant shall hire a licensed well contractor to obtain a well demolition permit from the City of Riverbank, and properly abandon the onsite wells, pursuant to review and approval of the City Engineer.*	
Impact 3.8-2: Potential to emit hazardous emissions or handle hazardous or acutely	LS		LS

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hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.			
Impact 3.8-3: Potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.	LS		LS
Impact 3.8-4: Potential for the Project to result in a safety hazard or excessive noise from an airport for people residing or working in the project area.	LS		LS
Impact 3.8-5: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS		LS
Impact 3.8-6: Potential to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	LS		LS
HYDROLOGY AND WATER QUALITY			
Impact 3.9-1: The proposed Project has the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.	PS	***Mitigation Measure 3.9-1****: The Project applicant shall implement the following nonstructural BMPs that focus on preventing pollutants from entering stormwater:* ● *Pollution Prevention/Good Housekeeping* ○ *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation in each phase of the Project, the Project*	LS

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		proponent shall develop a spill response and prevention plan as a component of (1) SWPPPs prepared for construction activities, (2) SWPPPs for facilities subject to the NPDES Stormwater Permit, and (3) spill prevention control and countermeasure plans for qualifying facilities. The spill response and prevention plan shall be implemented during all construction activities. ○ *Streets and parking lots in all non-residential portions of the Project site shall be swept at least once every two weeks.* ● *Operation and Maintenance (O&M) of Treatment Controls* ○ *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation in each phase of the Project, the Project proponent shall develop an Operation and Maintenance (O&M) Plan for the storm drainage facilities to ensure long-term performance. The O&M plan shall incorporate the manufacturers' recommended maintenance procedures and include (1) provisions for debris removal, (2) guidance for addressing public health or safety issues, and (3) methods and criteria for assessing the efficacy of the storm drainage system. An annual report shall be submitted to the City certifying that maintenance of the facilities was conducted according to the O&M plan.* ***Mitigation Measure 3.9-2****: The Project applicant shall implement the following structural BMPs that focus on preventing pollutants from entering stormwater, or alternative BMPs approved by the City of Riverbank. Implementation of BMPs apply to all new development including the right-of-way as appropriate.* ● *Extended Detention Facilities: Extended detention refers to the facilities proposed for the Project site that would detain and temporarily store stormwater runoff to reduce the peak rates of discharge to the storm drainage system. Detention of stormwater allows particles and other pollutants to settle and thereby potentially reduce concentrations and mass loading of contaminants in the discharge.*	

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		• *Grassed Swales: A swale is a vegetated, open channel management practice designed to treat and attenuate stormwater runoff for a specified water quality volume. Stormwater runoff flowing through these channels is treated by being filtered through vegetation in the channel, through a subsoil matrix, and/or through infiltration into the underlying soils. Swales can be used throughout the proposed Project area where feasible in the landscape design to treat parking lot runoff.* • *Proprietary Devices: There are a variety of commercially available stormwater treatment devices designed to remove contaminants from drainage once flows enter the conveyance systems. StormFilter™ units, or equivalent filtration-type systems, are recommended within the commercial and industrial areas as the main structural BMP for these areas. Bioswales are also recommended for streets and parking areas. Drop inlet filters should also be used to control drainage runoff water quality.*	
Impact 3.9-2: Project implementation could deplete groundwater supplies or interfere substantially with groundwater recharge.	LS		LS
Impact 3.9-3: The proposed Project would not alter the existing drainage pattern of the site or area, including the alteration of the course of a river or through the addition of impervious surfaces, in a manner which would result in substantial erosion, siltation, surface runoff, flooding, or polluted runoff.	LS		LS
Impact 3.9-4 The proposed Project has the potential to, in a flood hazard, tsunami, or seiche	LS		LS

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zones, risk release of pollutants due to project inundation.			
Impact 3.9-5: The proposed Project has the potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LS		LS
LAND USE, POPULATION, AND HOUSING			
Impact 3.10-1: The proposed Project would not physically divide an established community, or displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	LS		LS
Impact 3.10-2: The proposed Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project adopted to avoid or mitigate an environmental effect.	LS		LS
Impact 3.10-3: The proposed Project has the potential to induce substantial population growth in an area.	LS		LS
NOISE			
Impact 3.11-1: Construction of the proposed Project may generate significant noise.	PS	***Mitigation Measure 3.11-1:*** *Construction activities shall not occur between 6:30 p.m. and 6:00 a.m. on weekdays or 5:00 p.m. and 8:00 a.m. on weekends and legal holidays, as*	SU

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		required by the City of Riverbank Municipal Code. This requirement shall be noted in the improvements plans prior to approval by the City's Public Works Department. ***Mitigation Measure 3.11-2:*** *In an effort to comply with the City General Plan standards contained in Table 3.11-6 (Table N-3 of the General Plan), all equipment shall be fitted with factory equipped mufflers, and in good working order. In addition, all staging areas shall be located as far as feasibly possible from residential areas. This requirement shall be noted in the improvements plans prior to approval by the City's Development Services Department.*	
Impact 3.11-2: Construction of the proposed Project may result in vibration impacts.	PS	***Mitigation Measure 3.11-3:*** *Any compaction required less than 26 feet from the adjacent residential structures shall be accomplished by using static drum rollers which use weight instead of vibrations to achieve soil compaction. As an alternative to this requirement, pre-construction crack documentation and construction vibration monitoring could be conducted to ensure that construction vibrations do not cause damage to any adjacent structures. This requirement shall be noted in the improvements plans prior to approval by the City's Development Services Department.*	LS
Impact 3.11-3: The proposed Project may generate unacceptable traffic noise levels at existing receptors.	PS	*None feasible. Potential mitigation measures would require increasing the height of existing sound walls, building new off-site sound walls, including traffic calming measures to reduce vehicle speeds, and/or using quieter pavement technologies. Generally, construction of new sound walls is not practical due to the openings for driveway accesses which would compromise any barrier effectiveness. Increasing the heights of existing sound walls requires additional engineering of footings and is also not practical. Additionally, City General Plan Policy NOI 1.5 states that "[s]ound walls are prohibited as a method for reducing noise exposure that could be addressed through other means." Sound walls are not feasible or recommended in this case. Traffic calming measures generally have not been found to reduce overall traffic noise levels by a significant amount.* *The use of quiet pavement technologies is the most practical mitigation measure and would generally reduce traffic noise levels between 3 and 5 dB. Under the Cumulative scenario shown in Table 3.11-15, each roadway segment which shows a significant impact could*	SU

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		include future overlays of alternative quiet pavement. Assuming a minimum reduction of 3 dBA, quiet pavement placed along sensitive receptor areas on the previously listed roadway segment could reduce Project noise level increases, as outlined below: *Coffee Road from Patterson Road (SR 108) to Claratina Avenue – noise levels are predicted to increase by 1.6 to 4.3 dB without mitigation. Use of quiet pavement would reduce these increases to approximately 0.0 to 1.3 dBA, depending on the performance of the quiet pavement. Approximately 6,600 feet (approximately 1.25 miles) of quiet pavement would be required. See Figure 3.11-3 for approximate required pavement locations.* *With the use of quiet pavement on Coffee Road, noise level increases are expected to be in the range of 0.0 to 1.3 dBA. Approximately 6,600 feet (approximately 1.25 miles) of quiet pavement would be required. See Figure 3.11-3 for approximate required pavement locations. However, the implementation of quiet pavement on Coffee Road may not be considered practical or feasible due to overall costs and long-term maintenance coordination and requirements.*	
Impact 3.11-4: The proposed Project may be subject to shooting range noise at new sensitive receptors.	PS	***Mitigation Measure 3.11-4:*** *The following noise control measures shall be required in the improvements plans for Villages D, E, F, H, I, or J (or any other on-site areas which may be subject to noise resulting from the shooting range), prior to approval by the City's Public Works Department:* *1. Typical masonry type sound walls shall be constructed in the Specific Plan Area. Figure 3.11-5 shows the locations of the recommended sound walls.* ***Mitigation Measure 3.11-5:*** *The project proponent shall request the owner of the Modesto Rifle Club to make the following improvements on the Modesto Rifle Club's property, at the project proponent's own expense. It is noted that these noise control measures are not located within the boundary of the Project, and are not controlled by the Project proponent. As such, it cannot be guaranteed that the owners of the shooting range will allow these improvements to be made on their property by the Project proponent:*	SU

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		1. *Two 180-foot-long sound walls with acoustically absorptive treatment should span the eastern boundary of the rifle range. The first wall should be 20 feet tall and connect directly to the shooting range enclosure, allowing no gaps. The second wall should be 25 feet tall and be located directly north of the first wall and offset approximately 20 feet to the east (along the eastern boundary of the rifle range). The base elevation for the walls should be greater than or equal to the elevation of the shooting line. The inner side of the newly constructed walls (facing west) must be acoustically absorptive to prevent reflection of shooting noise. Figure 3.11-4 shows the proposed location of the sound walls. This measure specifically assumes use of Kinetics NOISEBLOCK perforated metal acoustical panels.* 2. *The existing rifle shooting range cover should be enclosed on the eastern side as shown in Figure 3.11-4. The enclosure should span from the floor to ceiling and have no gaps or penetrations that would allow sound to pass though. The enclosure should consist of minimum ¾" plywood with acoustical panels covering the inside walls, facing the shooting line. This measure specifically assumes use of Kinetics KNP perforated metal acoustical panels.* 3. *The left sound wall of the pistol range should be treated with an acoustically absorptive treatment, as shown on Figure 3.11-4. This measure specifically assumes use of Kinetics KNP perforated metal acoustical panels.* 4. *Acoustic absorption should be added above the shooting line and at the rear wall of the left side of the rifle shooting line, as shown on Figure 3.11-4. This measure specifically assumes use of Kinetics KNP perforated metal acoustical panels.* 5. *Fully enclose the rear (south) side of the rifle shooting line. A 4-foot-wide covered exit walkway may be constructed which allows access from the south, as shown on Figure 3.11-6. The enclosure should span from the floor to ceiling and have no gaps or penetrations that would allow sound to pass though. The enclosure should consist of minimum ¾" plywood with acoustical panels*	

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		covering the inside walls, facing the shooting line. This measure specifically assumes use of Kinetics KNP perforated metal acoustical panels.	
PUBLIC SERVICES AND RECREATION			
Impact 3.12-1: The proposed project may result in, or have the potential to require the construction of police department facilities which may cause substantial adverse physical environmental impacts.	PS	***Mitigation Measure 3.12-1:*** *Prior to final map approval, the Project applicant shall annex mapped property into Community Facilities District (CFD) No. 2016-01 for operational services with the Riverbank Police Department (Stanislaus County Sheriff), or create a new CFD for the proposed Plan Area.* ***Mitigation Measure 3.12-2:*** *Prior to the issuance of a Certificate of Occupancy for each dwelling unit (and prior to issuance of building permits for non-residential uses), the applicant shall pay all applicable project impact fees per the impact fee schedule.*	LS
Impact 3.12-2: The proposed project may require the construction of fire department facilities which may cause substantial adverse physical environmental impacts.	LS		LS
Impact 3.12-3: The proposed Project has the potential to increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated, and it will require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts.	PS	*This impact is associated with the development of the parks within the footprint of the Specific Plan Area. These physical impacts associated with development in the Specific Plan, such as agricultural conversion, etc., have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a significant and unavoidable impact (i.e., loss of prime farmland). The development of parks would contribute to physical impacts, including those that have been determined to be significant and unavoidable. The project will be required to implement the mitigation measures under each physical environmental impact identified. The topic does not require separate mitigation.*	SU
Impact 3.12-4: Project implementation may result in the need for the construction of new schools, which has the potential to cause	LS		LS

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substantial adverse physical environmental impacts.			
Impact 3.12-5: The proposed Project has the potential to have effects on other public facilities.	LS		LS
TRANSPORTATION AND CIRCULATION			
Impact 3.13-1: Implementation of the Specific Plan would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	PS	***Mitigation Measure 3.13-1:*** *The Project Applicant shall work with the City of Riverbank and Caltrans to design improvements to create an all-weather route to the MID trail and to address the gap in facilities east of the Project Area on SR 108 and shall fund these improvements. The mitigation shall include a safe crossing on SR 108 which may be incorporated into a traffic signal or roundabout at one of the River Walk Specific Plan access intersections, or may take the form of a pedestrian hybrid beacon, subject to approval of Caltrans. This mitigation shall be installed when directed by the Riverbank City Engineer with Caltrans approval.*	SU
Impact 3.13-2: Implementation of the Specific Plan would not conflict with or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).	PS	***Mitigation Measure 3.13-2:*** *The Project Applicant shall implement the following VMT related mitigation measures / strategies which could reduce the VMT generated by the proposed land uses. These VMT related mitigation measures / strategies shall be noted on the improvement plans.* • ***Shuttle Bus Service.*** *The proponents shall provide shuttle bus service linking the project with an applicable StaRT stop(s) and with key destinations in Riverbank and Modesto.* • ***Provide Transit Passes.*** *The project proponents shall provide off project residents and employees subsidized transit passes.* • ***Install Park-and-Ride Lots.*** *A portion of the parking supply in mixed use areas shall be designated for park-and-ride use.*	SU

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		• ***Increase Pedestrian / Bicycle Connectivity***. *Install off site pedestrian facilities to promote this mode and reduce VMT.*	
Impact 3.13-3: Implementation of the Specific Plan would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	PS	***Mitigation Measure 3.13-3:*** *Prior to approval of a Final Map or improvement plans, the Project Applicant shall contribute its pro rata fair share to the cost of improvement to the McHenry Avenue / Ladd Road / Patterson Road intersection.* ***Mitigation Measure 3.13-4:*** *The Project Applicant shall construct a westbound left turn lane on SR 108 at the Skittone Road intersection. This roadway design shall be noted on the improvement plans.*	SU
Impact 3.13-4: Implementation of the Specific Plan would not result in inadequate emergency access.	LS		LS
UTILITIES			
Impact 3.14-1: The proposed Project has the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	PS	*This impact is associated with the installation of the improvements within the footprint of the Specific Plan Area. Some physical impacts associated with development in the Specific Plan, such as agricultural conversion, etc., have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a significant and unavoidable impact (i.e., loss of prime farmland). The installation of improvements would contribute to physical impacts, including those that have been determined to be significant and unavoidable. The project will be required to implement the mitigation measures under each physical environmental impact identified. The topic does not require separate mitigation.*	SU
Impact 3.14-2: The proposed project does not have the potential to result in a determination by the wastewater treatment and/or collection provider which serves the project that the	PS	***Mitigation Measure 3.14-1:*** *Prior to the issuance of an occupancy certificate, the Project applicant shall secure the appropriate sewer allocation from the City of Riverbank. Securing the sewer allocation shall be on a first come first serve basis and shall be limited to those*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
provider does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.		*sewer allotments that are paid via sewer connection fees, and/or other fees that may be charged related to the sewer allocation.*	
Impact 3.14-3: The proposed Project has the potential to require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.	PS	*This impact is associated with the installation of the improvements within the footprint of the Specific Plan Area. Some physical impacts associated with development in the Specific Plan, such as agricultural conversion, etc., have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a significant and unavoidable impact (i.e., loss of prime farmland). The installation of improvements would contribute to physical impacts, including those that have been determined to be significant and unavoidable. The project will be required to implement the mitigation measures under each physical environmental impact identified. The topic does not require separate mitigation.*	SU
Impact 3.14-4: There are sufficient water supplies available to serve the Project from existing entitlements and resources.	LS		LS
Impact 3.14-5: The proposed Project has the potential to require or result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects.	PS	***Mitigation Measure 3.14-2****: Prior to the issuance of a grading permit, the Project applicant shall submit a drainage plan to the City of Riverbank for review and approval. The plan shall include an engineered storm drainage plan that demonstrates attainment of pre-Project runoff requirements prior to release and describes the volume reduction measures and treatment controls used to reach attainment consistent with the Riverbank Low Impact Development Design and Specifications Manual and the Riverbank Storm Drain System Master Plan.*	SU
Impact 3.14-6: The landfills that would serve the proposed Project have sufficient permitted capacity to accommodate the Project's solid waste disposal needs, and the proposed Project	LS		LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant* *PS – potentially significant*
B – beneficial impact *NI – No Impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
will comply with federal, State, and local statutes and regulations related to solid waste.			
CUMULATIVE IMPACTS			
Impact 4.1: Cumulative Damage to Scenic Resources within a State Scenic Highway	LS and LCC		LS and LCC
Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region	PS		CC and SU
Impact 4.3: Cumulative Impact on Light and Glare	LS and LCC		LS and LCC
Impact 4.4: Cumulative Impact on Agricultural Resources	PS	Implementation Mitigation Measures 3.2-1 through 3.2-3.	CC and SU
Impact 4.5: Cumulative Impact on the Region's Air Quality	LS and LCC	Implementation Mitigation Measures 3.3-1 through 3.3-4.	LS and LCC
Impact 4.6: Cumulative Loss of Biological Resources Including Habitats and Special Status Species	PS	Implementation Mitigation Measures 3.4-1 through 3.4-11.	LS and LCC
Impact 4.7: Cumulative Impacts on Known and Undiscovered Cultural Resources	LS and LCC	Implementation Mitigation Measures 3.5-1 through 3.5-3.	LS and LCC
Impact 4.8: Cumulative Impact on Geologic and Soils Resources	LS and LCC	Implementation Mitigation Measures 3.6-1 through 3.6-2.	LS and LCC

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant* *PS – potentially significant*

B – beneficial impact *NI – No Impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.9: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions	PS	Implementation Mitigation Measure 3.7-1.	CC and SU
Impact 4.10: Cumulative Impact Related to Hazards and Hazardous Materials	LS and LCC	Implementation Mitigation Measures 3.8-1 through 3.8-4.	LS and LCC
Impact 4.11: Cumulative Increases in Peak Stormwater Runoff from the Project site	LS and LCC	Implementation Mitigation Measures 3.9-1 through 3.9-2.	LS and LCC
Impact 4.12: Cumulative Impacts Related to Degradation of Water Quality	LS and LCC	Implementation Mitigation Measures 3.9-1 through 3.9-2.	LS and LCC
Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge	LS and LCC	Implementation Mitigation Measures 3.9-1 through 3.9-2.	LS and LCC
Impact 4.14: Cumulative Impacts Related to Flooding	LS and LCC	Implementation Mitigation Measures 3.9-1 through 3.9-2.	LS and LCC
Impact 4.15: Cumulative Impact on Communities and Local Land Uses	LS and LCC		LS and LCC
Impact 4.16: Cumulative Impacts on Population and Housing	LS and LCC		LS and LCC
Impact 4.17: Cumulative Exposure of Existing and Future Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development	PS	Implementation Mitigation Measures 3.11-1 through 3.11-5.	CC and SU

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant* *PS – potentially significant*

B – beneficial impact *NI – No Impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 4.18: Cumulative Impact on Public Services	PS	*This impact is associated with the development of the parks within the footprint of the Specific Plan Area. These physical impacts associated with development in the Specific Plan, such as agricultural conversion, etc., have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a significant and unavoidable impact (i.e., loss of prime farmland). The development of parks would contribute to physical impacts, including those that have been determined to be cumulatively significant and unavoidable. The project will be required to implement the mitigation measures under each physical environmental impact identified. The topic does not require separate mitigation.*	CC and SU
Impact 4.19: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)	PS	Implementation Mitigation Measures 3.13-1 through 3.13-4.	CC and SU
Impact 4.20: Under Cumulative conditions, the proposed Project would not adversely affect pedestrian and bicycle facilities	LS and LCC	Implementation Mitigation Measures 3.13-1 through 3.13-4.	LS and LCC
Impact 4.21: Cumulative Impact on Wastewater Utilities	PS	*This impact is associated with the installation of the improvements within the footprint of the Specific Plan Area. Some physical impacts associated with development in the Specific Plan, such as agricultural conversion, etc., have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a significant and unavoidable impact (i.e., loss of prime farmland). The installation of improvements would contribute to physical impacts, including those that have been determined to be significant and unavoidable. The project will be required to implement the mitigation measures under each physical environmental impact identified. The topic does not require separate mitigation.*	CC and SU
Impact 4.22: Cumulative Impact on Water Utilities	PS	*This impact is associated with the installation of the improvements within the footprint of the Specific Plan Area. Some physical impacts associated with development in the Specific Plan, such as agricultural conversion, etc., have been analyzed throughout this EIR. For*	CC and SU

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant* *PS – potentially significant*

B – beneficial impact *NI – No Impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		some environmental topics it was determined that the Specific Plan would have a significant and unavoidable impact (i.e., loss of prime farmland). The installation of improvements would contribute to physical impacts, including those that have been determined to be significant and unavoidable. The project will be required to implement the mitigation measures under each physical environmental impact identified. The topic does not require separate mitigation.	
Impact 4.23: Cumulative Impact on Stormwater Facilities	PS	*This impact is associated with the installation of the improvements within the footprint of the Specific Plan Area. Some physical impacts associated with development in the Specific Plan, such as agricultural conversion, etc., have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a significant and unavoidable impact (i.e., loss of prime farmland). The installation of improvements would contribute to physical impacts, including those that have been determined to be significant and unavoidable. The project will be required to implement the mitigation measures under each physical environmental impact identified. The topic does not require separate mitigation.*	CC and SU
Impact 4.24: Cumulative Impact on Solid Waste Facilities	LS and LCC		LS and LCC

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant* *PS – potentially significant*

B – beneficial impact *NI – No Impact* *SU – significant and unavoidable*

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1.1 PURPOSE AND INTENDED USES OF THE EIR

The City of Riverbank, as the lead agency, determined that the proposed River Walk Specific Plan Project is a "project" within the definition of CEQA, and is referred to herein as the “Project”. CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project that may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

An EIR must disclose the expected environmental impacts, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed project that could reduce or avoid its adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize significant environmental impacts of proposed development. CEQA also requires agency decision-makers, when considering the approval of projects with significant unavoidable environmental effects, to balance a variety of public objectives, including economic, environmental, and social factors.

The City of Riverbank, as the lead agency, has prepared this Draft EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from implementation of the proposed Project. The environmental review process enables interested parties to evaluate the proposed Project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the proposed Project. This EIR will be used by the City Council of the City of Riverbank to determine whether to approve, modify, or deny the proposed Project and associated approvals in light of the Project’s environmental effects. The EIR will be used as the primary environmental document to evaluate full development, all associated infrastructure improvements, and permitting actions associated with the proposed Project. All of the actions and components of the proposed Project are described in detail in Chapter 2.0, Project Description.

1.2 TYPE OF EIR

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168, but in some areas of the document it also serves as a Project-level EIR. Both types of analyses are discussed below.

The program-level analysis considers the broad environmental effects of the proposed project as a whole. The program-level analysis covers those areas of the proposed Project where there is no real physical development, but there are boundary changes, land use changes, or other changes that may result in physical development at some future time with a more detailed planning effort. Examples would include the expansion of the Sphere of Influence. This action would involve a boundary change on a map, but does not result in the physical development of the entire Project

area. Alternatively, the component of the proposed Project that includes a Specific Plan includes a very high level of design detail for that portion of the proposed Project. To the extent that sufficient detail is available in the Specific Plan, a full project-level analysis is provided in this EIR. Examples of a full project level analysis include topics that are related to the physical acreage affected (i.e. the project footprint), as opposed to the number of units, land uses/zoning, or other design parameters. Topics such as Biological Resources, Cultural Resources, and Hydrology/Water Quality are analyzed at a project-level analysis in this EIR given that these are physical environmental resources, and the area of impact is fully defined. Additionally, the Specific Plan includes a substantial level of detailed information that allows for a project-level analysis of topics such as Air Quality, Greenhouse Gases and Climate Change, Noise, Population and Housing, Transportation and Circulation, and Utilities. The analysis for these topics is driven by the number of units and square footage of development, which is detailed in the land use design and development projections. In some cases, there may be specific mixed use or commercial uses that have design details developed at a later date that cannot reasonably be analyzed at a project-level at this time.

This EIR examines the planning, construction and operation of the Project. The program-level approach, with some project-level analysis, is appropriate for the proposed project because it allows comprehensive consideration of the reasonably anticipated scope of the development plan; however, as discussed above, not all design aspects of the future development phases are known at this stage in the planning process. Subsequent individual development that requires further discretionary approvals will be examined in light of this EIR to determine whether additional environmental documentation must be prepared.

With respect to the proposed Reserve Area, the land would not be available for future City land use planning without future entitlements. Should an applicant desire to develop the Reserve Area at a future time, additional environmental analysis would be required.

CEQA Guidelines Section 15168 states that a program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1) Geographically,
2) As logical parts in the chain of contemplated actions,
3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or
4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

According to CEQA Guidelines section 15168, subdivision (c)(5), "[a] program EIR will be most helpful in dealing with later activities if it provides a description of planned activities that would implement the program and deals with the effects of the program as specifically and comprehensively as possible." Later environmental documents (EIRs, mitigated negative declarations, or negative declarations) can incorporate by reference materials from the program EIR regarding regional influences, secondary impacts, cumulative impacts, broad alternatives, and other factors (CEQA

Guidelines Section 15168[d][2]). These later documents need only focus on new impacts that have not been considered before (CEQA Guidelines Section 15168[d][3]).

Section 15168(c), entitled "Use with Later Activities," provides, in pertinent part, as follows:

> Later activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared:
>
> (1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration. That later analysis may tier from the program EIR as provided in Section 15152.
> (2) If the agency finds that pursuant to Section 15162, no subsequent EIR would be required, the agency can approve the activities as being within the scope of the project covered by the program EIR, and no new environmental document would be required. Whether a later activity is within the scope of a program EIR is a factual question that the lead agency determines based on substantial evidence in the record. Factors that an agency may consider in making that determination include, but are not limited to, consistency of the later activity with the type of allowable land use, overall planned density and building intensity, geographic area analyzed for environmental impacts, and covered infrastructure, as described in the program EIR.
> (3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into later activities in the program.
> (4) Where the later activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were within the scope of the program EIR.

Here, the City anticipates preparing a written checklist or similar device whenever landowners within the Specific Plan area submit applications for site-specific approvals (i.e. tentative maps, conditional use permits, or other discretionary entitlements). The checklist would serve in part as a consistency checklist to determine if the application for site specific approval is consistent with the General Plan, Specific Plan, Conditions of Approval, and Mitigation Measures, and it would also include a review of the project details relative to what was anticipated and analyzed in the program EIR (i.e. are there new environmental effects that were not covered by the program EIR). The City's expectation, at least at present, is that the checklist will conclude that most, or all, components of the Specific Plan can be developed with no new analysis of environmental effects given that there is a high level of resolution with regard to the project details that have been analyzed in this program EIR. In some cases, however, a site-specific application (i.e. mixed use, commercial, etc.) may have specific issues associated with the project, or business, that this program EIR could not anticipate given the information that was available at this time. In those situations, the detailed site-specific information from that application could have site-specific effects not wholly anticipated in this EIR and would require some additional environmental review. (See also CEQA Guidelines section 15063, subd. (b)(1)(C).)

Future site-specific approvals may also be narrowed pursuant to the rules for tiering set forth in CEQA Guidelines Section 15152. "'[T]iering is a process by which agencies can adopt programs, plans, policies, or ordinances with EIRs focusing on 'the big picture,' and can then use streamlined CEQA review for individual projects that are consistent with such…[first tier decisions] and are…consistent with local agencies' governing general plans and zoning.'" (*Koster v. County of San Joaquin* (1996) 47 Cal.App.4th 29, 36.) Section 15152 provides that, where a first-tier EIR has "adequately addressed" the subject of cumulative impacts, such impacts need not be revisited in second- and third-tier documents. Furthermore, second- and third-tier documents may limit the examination of impacts to those that "were not examined as significant effects" in the prior EIR or "[a]re susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means." In general, significant environmental effects have been "adequately addressed" if the lead agency determines that:

a) they have been mitigated or avoided as a result of the prior environmental impact report and findings adopted in connection with that prior environmental impact report; or
b) they have been examined at a sufficient level of detail in the prior environmental impact report to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project.

Here, as noted above, the City anticipates preparing a written checklist or similar device whenever landowners within the Specific Plan area submit applications for site-specific approvals (i.e. tentative maps, conditional use permits, or other discretionary entitlements). The checklist would serve in part as a consistency checklist to determine if the application for site specific approval is consistent with the General Plan, Specific Plan, Conditions of Approval, and Mitigation Measures, and it would also include a review of the project details relative to what was anticipated and analyzed in the program EIR (i.e. have all significant environmental impacts identified been "adequately addressed" in the program EIR). Thus, if a new analysis is required for these site-specific actions, it would focus on impacts that cannot be "avoided or mitigated" by mitigation measures that either (i) were adopted in connection with the Specific Plan or (ii) were formulated based on information in this EIR.

In addition, because the EIR addresses the effects of rezoning the land within the proposed Specific Plan area, future environmental review can also be streamlined pursuant to Public Resources Code Section 21083.3 and CEQA Guidelines Section 15183. These provisions, which are similar but not identical to the tiering provisions, generally limit the scope of necessary environmental review for site-specific approvals following the preparation of an EIR for a "zoning action." For such site-specific approvals, CEQA generally applies only to impacts that are "peculiar to the parcel or to the project" and have not been previously disclosed, except where "substantial new information" shows that previously identified impacts would be more significant than previously assumed. Notably, impacts are considered not to be "peculiar to the parcel or to the project" if they can be substantially mitigated pursuant to previously adopted, uniformly applied development policies or standards. As noted above, the City anticipates that, in assessing the extent to which the EIR has previously addressed significant impacts that might occur with individual projects, the City may conclude that in some instances, no further analysis beyond that found in the program EIR will be necessary.

Finally, for purely residential projects consistent with the Specific Plan, the City intends to preserve its ability to treat such projects as exempt from CEQA pursuant to Government Code section 65457. Subdivision (a) of that statute provides that "[a]ny residential development project, including any subdivision, or any zoning change that is undertaken to implement and is consistent with a specific plan for which an [EIR] has been certified after January 1, 1980, is exempt from the requirements of [CEQA]." The statutes go on to say, moreover, that "if after adoption of the specific plan, an event as specified in Section 21166 of the Public Resources Code occurs, the exemption provided by this subdivision does not apply unless and until a supplemental [EIR] for the specific plan is prepared and certified in accordance with the provisions of [CEQA]. After a supplemental [EIR] is certified, the exemption … applies to projects undertaken pursuant to the specific plan." (See also CEQA Guidelines section 15182.)

When purely residential projects are proposed, the City will consider whether they qualify for this exemption or whether the River Walk Specific Plan EIR must be updated through a supplement to this EIR or a subsequent EIR as required by Public Resources Code section 21166 and CEQA Guidelines sections 15162 and 15163.

1.3 RESPONSIBLE AND TRUSTEE AGENCIES

CEQA generally requires that Notices of Preparation (NOPs) and Draft EIRs be circulated to "responsible agencies" and "trustee agencies." As required by CEQA, this EIR defines lead, responsible, and trustee agencies. The City of Riverbank is the "Lead Agency" for the project because it holds principal responsibility for approving the project. The term "Responsible Agency" includes all public agencies other than the Lead Agency that have discretionary approval power over the project or an aspect of the project (CEQA Guidelines Section 15381). For the purpose of CEQA, a "Trustee" agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California. CEQA Guidelines Section 15386 recognizes four particular trustee agencies: (a) the California Department of Fish and Wildlife with regard to the fish and wildlife of the State, to designated rare or endangered native plants, and to game refuges, ecological reserves, and other areas administered by the department; (b) the State Lands Commission with regard to State owned "sovereign" lands such as the beds of navigable waters and State school lands; (c) the State Department of Parks and Recreation with regard to units of the State Park System; and (d) The University of California with regard to sites within the Natural Land and Water Reserves System.

The following agencies may be required to issue permits or approve certain aspects of the proposed Project. Other governmental agencies that may require approvals in connection with the Project include, but are not limited to, the following:

- Stanislaus Local Agency Formation Commission (LAFCO) – Amendment of the Sphere of Influence of the City of Riverbank to cover the entire Project Area, Municipal Services Review Update/Amendment, and Annexation of the Specific Plan area to the City of Riverbank;
- Modesto Irrigation District (MID): Approval of roadway and utility pipeline crossings in at least two locations along the MID Main canal within the Specific Plan Area. Approval of a widening of Patterson Road at two existing crossings of the MID Main Canal. Approval of a

roadway and utility pipeline crossing at the Spenker Drain. Approval of a stormwater discharge agreement to authorize discharge of stormwater into MID facilities.

- California Department of Fish and Wildlife (CDFW) Issuance of 1600 Streambed Alteration Agreement;
- California Department of Transportation (Caltrans) safe crossing and approval of improvements on SR 108. It is noted that the SR 108 designation is expected to be removed when the North County Corridor is constructed between Claribel Road and the City of Oakdale;
- Central Valley Regional Water Quality Control Board (CVRWQCB) - Construction Stormwater General Permit including review of Storm Water Pollution Prevention Plan (SWPPP) prior to approval and construction activities, including boring under jurisdictional facilities, pursuant to the Clean Water Act and RWQCB-401 certification;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) - Approval of construction-related air quality permits.

Finally, the Project may also require a Clean Water Act Section 404 permit from the United States Army Corps of Engineers (USACE) and/or an Endangered Species Act Section 7 permit from the U.S. Fish and Wildlife Service (USFWS). As federal agencies not subject to California law, the USACE and USFWS, strictly speaking, is neither a responsible agency nor a trustee agency. Instead, as a federal agency, they are each subject to the National Environmental Policy Act (NEPA) rather than CEQA.

The following agencies are considered Trustee Agencies for this project, and may be required to issue permits or approve certain aspects of the proposed Project:

- California Department of Fish and Wildlife – Trustee of California fish and wildlife;
- State Lands Commission – The bed of the Stanislaus River is State owned "sovereign" land.

The City is unaware of any other trustee agency, or State owned "sovereign" lands, any units of the State Park System, or any sites within the University of California's Natural Land and Water Reserves System.

The proposed Project will also require input or approvals from the following entities, which are not governmental agencies:

- Electricity service is available from two service providers for the Plan Area. Pacific Gas & Electric (PG&E) and Modesto Irrigation District (MID) show the Plan Area within their service boundaries. New power transmission lines will be installed underground, which conforms to the City Development Standards. Each tenant and residential unit will be individually metered for their electricity use.
- Natural Gas will be provided by PG&E. The Plan Area falls within the service boundary for PG&E. New transmission lines will be installed underground for the Project, and per City requirements. Individual connections for retail tenants and residential units will be established for usage and billing purposes.

- Telecommunications services include phone service, fiber optics, and cable television. AT&T Residential Division is expected to be the primary phone and fiber optic provider for the Plan Area. Charter Communications will be the primary cable television provider. AT&T Business Division will be the primary provider for the non-residential (i.e., Mixed Use). As with the other utilities, all new transmission lines will be constructed underground to meet the requirements of the City.

1.4 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

NOTICE OF PREPARATION

The City of Riverbank circulated a NOP of an EIR for the proposed Project on June 4, 2021 to State Clearinghouse, State Responsible Agencies, State Trustee Agencies, Other Public Agencies, and Organizations and Interested Persons. A public scoping meeting was held on June 17, 2021 to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The IS and NOP comments are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the proposed Project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies environmental categories for which the Project was determined to have no impacts or less than significant impacts, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the City of Riverbank will file the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period. Additionally, the City of Riverbank will file the Notice of Availability with the County Clerk and have it published in a newspaper of regional circulation to begin the local public review period.

PUBLIC NOTICE/PUBLIC REVIEW

The City of Riverbank will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Attn: Donna Kenney, AICP MCRP, Planning and Building Manager

City of Riverbank, Development Services Department
6707 3rd Street
Riverbank, CA 95367
(209) 863-7124

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to significant environmental issues raised either in written comments received during the public review period or in oral comments received at a public hearing during such review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

CEQA Guidelines Section 15090 requires that, prior to approving a project, a lead agency's decisionmaker or decision-making body must first "certify" the Final EIR prepared for the project. Here, for this proposed Project, the City Council will be the City's ultimate decision-making body. In order to certify the Final EIR, the City Council will have to specifically certify that (i) the Final EIR has been completed in compliance with CEQA; (ii) that the Final EIR was presented to the decision-making body (the City Council), which reviewed and considered the information contained in the Final EIR prior to approving the project; and (iii) that the Final EIR reflects the lead agency's independent judgment and analysis. In general, an EIR has been completed "in compliance with CEQA" if the document meets applicable legal content requirements; shows a good faith effort at full disclosure of environmental information; and provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

The level of detail contained throughout this EIR is consistent with Section 15151 of the CEQA Guidelines and recent court decisions, which provide the standard of adequacy on which this document is based. That provision state as follows:

> *"An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of the environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."*

Following review and consideration of the Final EIR, the City Council may act to approve, modify, or reject the Project. If the City Council approves or modifies the proposed Project, or chooses to approve one of the project alternatives set forth in this EIR, the City Council will have to adopt "CEQA Findings" pursuant to CEQA Guidelines section 15091. These findings are necessary to effectuate the substantive mandate of CEQA, as set forth Public Resources Code section 21002. That statute provides that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects."

The mandate announced in section 21002 is implemented, in part, through the requirement that agency decisionmakers must adopt findings before approving projects for which EIRs are required. For each significant environmental effect identified in an EIR for a project, the approving body must issue a written finding reaching one or more of three permissible conclusions. The first such finding is that changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. The second permissible finding is that such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding, and that such changes have been adopted by such other agency or can and should be adopted by such other agency. The third potential conclusion is that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities, make infeasible the mitigation measures or project alternatives identified in the Final EIR. (See CEQA Guidelines Section 15091[a]; see also Public Resources Code Section 21081[a].)

Here, because the Project as proposed and the alternatives other than "No Project" would have significant unavoidable environmental impacts, the City Council would also have to adopt, as part of any approval action, a Statement of Overriding Considerations. It must identify the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, that the City Council determines outweigh the Project's or Alternative's unavoidable adverse environmental effects, thereby rendering them "acceptable." (See CEQA Guidelines Section 15093.)

Finally, as part of project approval, CEQA will require the City Council to adopt a Mitigation Monitoring and Reporting Program prepared in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097. This Mitigation Monitoring and Reporting Program must include all of the mitigation measures that have been incorporated into or imposed upon the Project to reduce or avoid significant effects on the environment, and must be designed to ensure that these measures are actually carried out during project implementation.

1.5 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Discussion of the environmental issues addressed in the Draft EIR was established through review of environmental and planning documentation developed for the proposed Project, environmental and planning documentation prepared for recent projects located within the City of Riverbank, applicable local and regional planning documents, and responses to the NOP.

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

This Executive Summary summarizes the characteristics of the proposed Project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the proposed

Project's environmental impacts and possible mitigation measures. This chapter identifies alternatives that reduce or avoid at least one significant environmental effect of the proposed Project.

CHAPTER 1.0 – INTRODUCTION

Chapter 1.0 briefly describes the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, and identifies the scope and organization of the Draft EIR.

CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed Project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, related improvements, and a list of related agency action requirements.

CHAPTER 3.0 – ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addressing a topical area is organized as follows:

Environmental Setting. A description of the existing environment as it pertains to the topical area.

Regulatory Setting. A description of the regulatory environment that may be applicable to the proposed Project.

Impacts and Mitigation Measures. Identification of the thresholds of significance by which impacts are determined, a description of project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this section:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural and Tribal Resources
- Geology and Soils
- Greenhouse Gases, Climate Change and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use, Population and Housing
- Noise
- Public Services and Recreation

- Transportation and Circulation
- Utilities

CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following topics required by CEQA: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, cumulative, and significant and unavoidable environmental effects.

CHAPTER 5.0 – ALTERNATIVES TO THE PROJECT

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the proposed Project, which could feasibly attain most of the basic objectives of the proposed Project and avoid and/or lessen any of the significant environmental effects of the proposed Project. Chapter 5.0 provides a comparative analysis between the environmental impacts of the proposed Project and the selected alternatives.

CHAPTER 6.0 – REPORT PREPARERS

This section lists all authors and agencies that assisted in the preparation of the EIR, by name, title, and company or agency affiliation.

APPENDICES

This section includes all notices and other procedural documents pertinent to the EIR, as well as technical material prepared to support the analysis.

1.6 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City of Riverbank received 28 written comment letters on the NOP for the proposed Project. A copy of the letters is provided in Appendix A of this Draft EIR. The commenting agency/citizen is provided below.

TABLE 1.0-1: LIST OF COMMENTORS

LETTER NUMBER	*INDIVIDUAL OR SIGNATORY*	*AFFILIATION*	*DATE OF LETTER*
1	Sarah Fonseca	Native American Heritage Commission - Sacramento	6-09-21
2	James Herota	Central Valley Flood Protection Board - Sacramento	6-14-21
3	Gavin McCreary	Department of Toxic Substances Control - Sacramento	6-15-21
4	Annabel Gammon	Stanislaus County Resident	6-17-21
5	Monique Wilber	California Department of Conservation - Sacramento	6-21-21
6	Scott Murray	Modesto Resident	6-21-21
7	Dennis Jackman	Modesto Resident	6-29-21
8	Wona Rosier-Arauz	Soluri Meserve, A Law Corporation - Sacramento	6-29-21
9	Sara Lytle-Pinhey	Stanislaus LAFCo - Modesto	6-29-21

LETTER NUMBER	*INDIVIDUAL OR SIGNATORY*	*AFFILIATION*	*DATE OF LETTER*
10	Brian Clements-John Stagnaro	San Joaquin Valley Air Pollution Control District - Modesto	6-30-21
11	Osha Meserve	Soluri Meserve, A Law Corporation - Sacramento	7-1-21
12	Jaylen French	City of Modesto	7-2-21
13	Jeani Ferrari	Farmland Working Group - Turlock	7-4-21
14	Jim Gerber	Not identified	7-4-21
15	Richard Meissner	Riverbank Resident	7-4-21
16	Alisha Fisher	Modesto Resident	7-5-21
17	Bernard-Jami Aggers	Modesto Resident	7-5-21
18	Danilo Martinez	Modesto Resident	7-5-21
19	Evelan Halbert	Riverbank Resident	7-5-21
20	Art Mitchell	Not identified	7-6-21
21	Betsey Walton	Not identified	7-6-21
22	Julie Vance	California Department of Fish and Wildlife - Fresno	7-6-21
23	Not identified	Central Valley Concerned Citizens - Escalon	7-6-21
24	Nicholas White	Central Valley RWQCB – Rancho Cordova	7-6-21
25	Jayne Waters	Modesto Resident	7-6-21
26	Matt Veneman	Modesto Resident	7-6-21
27	Susan Wedegaertner	Modesto Resident	7-6-21
28	Wendy Summers	Not identified	7-6-21

2.1 PROJECT LOCATION

The proposed Project is located in the unincorporated area of Stanislaus County and adjacent to the City of Riverbank, north of Patterson Road/State Route (SR) 108, east of McHenry Avenue, south of the Stanislaus River, and approximately two miles northwest of downtown Riverbank. Figures 2.0-1 shows the Project's regional location and vicinity.

The proposed Project includes a proposed Specific Plan, as well as a Sphere of Influence (SOI) Amendment. The entire Project Area includes approximately 1,522 acres within the unincorporated county adjacent to the City of Riverbank. The River Walk Specific Plan Area includes a 997-acre area to be annexed and subsequently developed. The remaining land within the Project Area is part of the SOI Amendment, and would be held as Reserve land for possible long-range planning at some future time.

The overall Project Area includes several distinct planning boundaries defined below. The following terms are used throughout this DEIR to describe planning area boundaries within the Project Area:

- SOI Expansion Area – includes the area covered by the proposed Sphere of Influence Amendment and encompasses the entire Project Area, including the Reserve land.
- Specific Plan Area - includes all lands identified and included within the River Walk Specific Plan. The Specific Plan Area is proposed to be annexed into the City of Riverbank as part of the proposed Project. The Specific Plan Area is a portion of the SOI Expansion Area.
- Berghill Boundary – includes areas within the Specific Plan Area that are controlled by the project applicant.
- Project area - includes the SOI expansion area, including the Specific Plan and Berghill Boundary. The Project Area is the same boundary as the SOI Expansion Area.

Project area boundaries are shown on Figure 2.0-2 and acreages associated with each area are shown in Table 2.0-1. As shown on Figure 2.0-2 and in Table 2.0-1, the proposed Project includes approximately 1,522 acres encompassing: (1) the Specific Plan Area that includes a total of 997 acres, including the Berghill Boundary, and (2) the SOI Expansion Boundary, which makes up the entire Project Area.

TABLE 2.0-1: PLANNING AREA BOUNDARY ACREAGES

PLANNING AREA BOUNDARY	*ACRES (GIS)*
Specific Plan Area	997 acres
Overall Project Area	1,522 acres

2.2 PROJECT SETTING

The Project Area is made up of 59 assessor parcel numbers (APNs). Parcels within the Project Area are listed in Table 2.0-2 and displayed on Figure 2.0-3.

TABLE 2.0-2: PARCELS WITHIN THE PROJECT AREA

MAP ID	*APN*	*ACREAGE**	*MAP ID*	*APN*	*ACREAGE**
1	074-001-001	61.77	**31**	074-002-007	5.46
2	074-001-015	9.91	**32**	074-002-033	17.10
3	074-001-016	5.34	**33**	074-002-032	4.79
4	074-001-003	0.60	**34**	074-002-001	305.49
5	074-001-011	3.47	**35**	074-003-022	366.22
6	074-001-012	3.02	**36**	074-003-021	40.90
7	074-001-013	3.02	**37**	074-003-020	2.61
8	074-001-005	3.01	**38**	074-003-016	23.94
9	074-001-014	2.68	**39**	074-003-013	28.30
10	074-001-008	0.83	**40**	074-003-012	15.39
11	074-001-009	2.00	**41**	074-003-023	68.06
12	074-001-010	18.49	**42**	074-003-002	14.30
13	074-002-020	2.84	**43**	074-003-015	8.84
14	074-002-019	2.42	**44**	074-003-014	9.29
15	074-002-018	2.04	**45**	074-003-011	2.39
16	074-002-017	2.12	**46**	074-003-010	3.55
17	074-002-025	2.19	**47**	074-003-019	3.78
18	074-002-024	1.51	**48**	074-003-018	5.75
19	074-002-014	56.16	**49**	074-003-024	26.27
20	074-002-013	11.63	**50**	074-003-008	9.99
21	074-002-011	34.44	**51**	074-003-007	9.60
22	074-002-028	2.35	**52**	074-003-006	9.59
23	074-002-026	21.00	**53**	074-003-005	4.83
24	074-002-006	32.35	**54**	074-003-004	5.05
25	074-002-010	27.07	**55**	074-003-003	9.95
26	074-002-031	48.26	**56**	074-005-012	1.03
27	074-002-021	28.10	**57**	074-005-013	1.68
28	074-002-030	40.20	**58**	074-005-010	1.27
29	074-002-029	39.43	**59**	074-005-011	0.40
30	074-002-034	23.87	**NP**	**Non-parcelized**	23.47
					Total 1,521.41

NOTE ACREAGE INCLUDES PARCELIZED LOTS NOTES "NP" FOR NON-PARCELIZED AREAS SUCH AS RIGHTS-OF-WAY AREAS. NON-PARCELIZED AREAS MAKE UP 23.47 ACRES.

SITE TOPOGRAPHY

The Project Area topography ranges greatly in elevation from approximately 75 to 159 feet above sea level. The high area to the south and west is approximately 100 to 125 feet above mean sea level and acts as a ridge surrounding the lowland areas which are approximately 75 to 80 feet above mean sea level. There is a steep banked slope that separates the high and low areas. Other than the prominent steep sloping banked areas, the majority of the Project Area contains gentle slopes and is generally characterized as flat. Figure 2.0-4 shows the topography of the Project Area.

EXISTING SITE USES

The current uses in the Project Area are predominantly agricultural operations, including almond and walnut orchards in the eastern/southeastern portion of the Project Area and cherry orchards and fallow

land in the western/central portion of the Project Area. The land in the north/northwestern portion of the Project Area contains fallow land and various trees including Eucalyptus and Willow trees. In the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. Additionally, a horse ranch exists within the Project Area. The Project Area also includes a commercial nursery business and truck storage area. Additionally, an approximately 150-acre solar farm and the Modesto Rifle Club exist in the southwest portion of the Project Area directly northeast of the intersection of Patterson Road and McHenry Avenue, and the Morris Nursery exists in the southeastern corner of the Project Area directly northwest of the intersection of Patterson Road and Rock Creek Road. Figure 2.0-5 shows aerial imagery of the Project Area.

The Modesto Irrigation District (MID) provides the water supply for the existing agricultural uses and maintains two easements in the Project Area. Once a project is annexed into Riverbank, irrigation districts no longer serve the existing agricultural uses. A MID main canal with a crossing is located approximately 950 feet to the west and approximately 0.45 miles to the east of the intersection of Patterson Road and Coffee Road in the southern portion of the Project Area. The canal enters in the southwest portion of the Project Area and runs to the northeast eventually curving to exit the Project Area in the southeast. A series of private irrigation ditches and pipes distribute the MID water from the on-site canals throughout the Project Area for agricultural use.

Assessed uses as identified by the County Assessor include predominantly agricultural uses, with limited areas assessed by the County Assessor as single family residential, commercial, office and other miscellaneous uses. Figure 2.0-6 shows Assessed Land Uses within the Project Area as identified by the County Assessor.

EXISTING SURROUNDING USES

The Project Area is located outside the northwestern boundary of the City of Riverbank Sphere of Influence (SOI), within the unincorporated area of Stanislaus County. The Project Area is bounded on the north by the Stanislaus River and Stanislaus County Limits, on the south by Patterson Road, on the west by McHenry Avenue, and on the east by single-family residential subdivision. Uses immediately adjacent to the south and southwest of the Project Area include agricultural uses and residential uses, including ranchettes and large estates lots. Uses directly southeast of the Project Area include agricultural uses and a single-family residential subdivision. Other existing uses east of the southerly portion of the Project Area include a single-family residential subdivision and a commercial center. Uses immediately west of the Project Area include active agricultural land and the Del Rio Country Club, including a golf course and associated single-family residential subdivision. Other nearby uses include agricultural uses and residential uses, including ranchettes and large estates lots to the north, northeast, and northwest across the Stanislaus River. Figures 2.0-1 and 2.0-2 in Section 2.0, Project Description, illustrate the regional location and Project vicinity.

GENERAL PLAN LAND USE DESIGNATIONS AND ZONING

The Project Area is currently located within the unincorporated area of Stanislaus County, and just outside the Riverbank city limits and SOI. The City of Riverbank has identified much of the Specific Plan Area for urban development within their existing General Plan.

Existing City of Riverbank General Plan Land Use Designations

Although the Project area is outside the municipal boundaries of the City of Riverbank, the City of Riverbank General Plan designates the Project Area as Lower Density Residential (0 to 8 du/net ac), Medium Density Residential (8 to 16 du/net ac), Higher Density Residential (16 or more du/net ac), Mixed-Use, Civic, Park, Multi-Use Recreational/Resource, Buffer/Greenway/Open Space, Agricultural Resource Conservation Area, and Reserve. Table 2.0-3 shows the existing City land use designations and acreages for the Plan Area. Figure 2.0-7 depicts the existing City of Riverbank General Plan land use designations for the Project Area.

TABLE 2.0-3: EXISTING RIVERBANK LAND USE DESIGNATIONS WITHIN PROJECT AREA

LAND USE	*ACREAGE*
Agricultural Resource Conservation Area	520.81
Buffer/Greenway/Open Space	129.44
Canal	20.63
Civic	15.79
Higher Density Residential (16+ units/Acre)	17.25
Lower Density Residential (0-8 units/Acre)	319.25
Medium Density Residential (8-16 units/Acre)	117.00
Mixed Use	51.44
Multi-Use Recreational/Resource	5.29
Parks	14.79
Reserve	305.29
Rights of Way	4.44
Total	**1,521.41**

The General Plan contains the following standards to guide development for these land uses:

Lower Density Residential (LDR): The LDR land use designation includes single-family homes, one to each lot, developed at a net density of up to eight dwelling units per acre. Lots would be at least 5000 square feet in size. This category would primarily include detached units, but attached single-family units may be permitted, provided each unit has ground-floor living area and private outdoor open space.

Medium Density Residential (MDR): The MDR land use designation includes small-lot, single-family detached homes, attached single-family homes, and other residences developed at a net density of between eight and 16 dwelling units per acre. Lots would be at least 2,500 square feet in size.

Higher Density Residential (HDR): The HDR land use designation allows for all types of attached single-family and multi-family housing, including condominiums, apartment buildings, townhouses, and other similar residential structures developed at a net density of 16 or more dwelling units per acre.

Mixed-Use (MU): The MU land use designation would accommodate neighborhood-scale retail uses, offices, personal and commercial services, and similar land uses. This is the primary category for Riverbank to accommodate neighborhood-serving retail, services, offices, and similar needs during the buildout of this General Plan. As such, this land use classification is anticipated to be mainly non-residential. However, the MU designation also explicitly allows for higher-density residential development in a vertical or horizontal mixed-use setting. This could include residential development above (on upper stories of a building) or adjacent to commercial operations on the same property.

Civic (C): The C land use designation includes civic and cultural land uses of various types. Examples include schools, places of worship, public facilities and infrastructure, community halls, and similar cultural and civic land uses. Where such land uses occur within an existing or planned neighborhood, they shall be designed to be compatible with the surrounding neighborhood. They shall be designed to be pedestrian friendly, include publicly accessible areas (where appropriate), and shall unify rather than divide neighborhoods. Certain land uses included in this category, such as day care centers, public facilities and services, places of religious worship, and other appropriate land uses will be allowed in other land use designations as well, according to standards established in Riverbank's zoning ordinance.

Park (P): The P land use designation includes active and passive parkland of all types. New and existing neighborhoods in Riverbank shall have close and convenient access to community parks, neighborhood parks, and smaller "pocket parks." This category can include public plazas, town squares, tot lots, parkways, linear parks, and other park space configurations.

Buffer/Greenway/Open Space (B/G/OS): This designation provides the opportunity to preserve important open spaces containing natural resources, such as sensitive biological habitat. This category also includes areas where buffering is necessary between different land uses. Bicycle and pedestrian pathways are also accommodated by this Land Use Designation.

Multi-Use Recreational/Resource (MUR/R): This designation would provide opportunities for stormwater management, renewable energy production, and community recreation amenities. This area would accommodate stormwater detention facilities, groundwater recharge areas, wind generators, solar collectors, wind breaks, as well as trails, benches, and other passive recreational uses.

Areas designated MUR/R could also act as a buffer between ongoing agriculture and new residential areas and provide an identifiable and permanent boundary to the outward expansion of the City. Areas designated MUR/R between new growth areas and ongoing agricultural operations will be identified and appropriate widths established through the Specific Plan. The width of MUR/R areas will vary depending on the intended uses taking place within a particular area. The width of the MUR/R for agricultural buffering purposes will be designed to minimize noise, dust, and any adverse impacts related to application of agricultural chemicals as experienced by encroaching residential uses.

Agricultural/Resource Conservation Area (AG): This designation provides for ongoing agricultural operations and land uses compatible with ongoing agricultural operations. Generally, this designation occurs in areas with large properties, where agricultural practices are more feasible. This designation also tends to occur in areas with high-quality soils (for cultivation purposes). Examples of land uses compatible

with ongoing agricultural operations include equestrian uses, groundwater recharge areas, public infrastructure, farmer's market stands and other on-site sales of local produce, and farmworker housing.

Reserve (R): The Reserve category is intended for land that the City has not yet planned for a specific urban, agricultural, or resource land use.

Existing Stanislaus County General Plan Land Use Designations

The Stanislaus County General Plan designates the majority of the Project Area as Agriculture (AG), and a small portion (5 acres including APNs 074-005-012, 074-005-013, 074-005-010, 074-005-011) of the eastern portion of Project Area as Urban Transition (UT). The General Plan contains the following standards to guide development for these land uses:

Agriculture: The Agriculture land use designation recognizes the value and importance of agriculture by acting to preclude incompatible urban development within agricultural areas. The designation is intended for areas of land which are presently or potentially desirable for agricultural usage. These are typically areas which possess characteristics with respect to location, topography, parcel size, soil classification, water availability and adjacent usage which, in proper combination, provide a favorable agricultural environment. This designation establishes agriculture as the primary use in land so designated, but allows dwelling units, limited agriculturally related commercial services, agriculturally related light industrial uses, and other uses which by their unique nature are not compatible with urban uses, provided they do not conflict with the primary use.

Urban Transition: The purpose of the Urban Transition designation is to ensure that land remains in agricultural usage until urban development consistent with a city's (or unincorporated community's) general plan designation is approved. Generally, urban development will only occur upon annexation to a city, but such development may be appropriate prior to annexation provided the development is not inconsistent with the land use designation of the general plan of the affected city. If this is to occur, a change in the General Plan designation consistent with the adopted goals and policies to some other land use designation shall be required.

Existing Stanislaus County Zoning Designations

The Stanislaus County Zoning Ordinance currently designates the majority of the Project Area for General Agriculture 40 Acre (A-2-40) uses, and a limited portion (APNs 074-005-012, 074-005-013, 074-005-010, 074-005-011) as General Agriculture 10 Acre (A-2-10). The County Zoning Code contains the following standards to guide development for these designations:

General Agriculture 40 and 10 Acre (A-2): The A-2 zone supports and enhances agriculture as the predominant land use in the unincorporated areas of the County. These district regulations are also intended to protect open-space lands pursuant to Government Code Section 65910.

SURROUNDING GENERAL PLAN DESIGNATIONS

Lands surrounding the Project Area within the County generally consist of AG uses, with limited areas of Urban Transition (UT) and low density residential along the easternmost boundary.

Lands to the south (within the Riverbank city limits) are designated by the City for low density residential (LDR) uses. Areas along the easternmost boundary are designated by the City for LDR uses, with limited areas of Mixed-Use (MU) designated areas adjacent to the southeast corner of the Project Area.

2.3 PROJECT GOALS AND OBJECTIVES

Consistent with CEQA Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the proposed Project shall be discussed.

OVERALL PROJECT OBJECTIVES

The underlying purpose of the proposed Project is the expansion of the City of Riverbank Sphere of Influence, and approval and subsequent implementation of the Specific Plan as a means of increasing the housing supply in Stanislaus County and the State of California.

The underlying project purpose of providing housing for the county and state is in part a response to, and is driven by, strong policy direction from the Legislature, which has declared that "California has a housing supply and affordability crisis of historic proportions. The consequences of failing to effectively and aggressively confront this crisis are hurting millions of Californians, robbing future generations of the chance to call California home, stifling economic opportunities for workers and businesses, worsening poverty and homelessness, and undermining the state's environmental and climate objectives." (Gov. Code Section 65589.5[a][2][A].) "California housing has become the most expensive in the nation. The excessive cost of the state's housing supply is partially caused by activities and policies of many local governments that limit the approval of housing, increase the cost of land for housing, and require that high fees and exactions be paid by producers of housing." (*Id*., Section 65589.5[a][1][C].) "Among the consequences of those actions are discrimination against low-income and minority households, lack of housing to support employment growth, imbalance in jobs and housing, reduced mobility, urban sprawl, excessive commuting, and air quality deterioration." (*Id*., Section 65589.5[a][1][B].) "An additional consequence of the state's cumulative housing shortage is a significant increase in greenhouse gas emissions caused by the displacement and redirection of populations to states with greater housing opportunities, particularly working- and middle-class households. California's cumulative housing shortfall therefore has not only national but international environmental consequences." (*Id*., Section 65589.5[a][2][I].) The Project is intended to directly address these legislative concerns.

SPECIFIC PLAN OBJECTIVES

Consistent with the above-described underlying purpose and state policy considerations, the primary objectives of the Specific Plan are to establish the framework for a new mixed-use community, allowing residents to live in a community where they can enjoy a high quality of life with abundant opportunities for outdoor recreation and social activities. The following goals have been established as a framework to achieving the primary objectives for the Specific Plan and for purposes of satisfying the requirement, in CEQA Guidelines section 15124[b], to identify a "statement of objectives" for the Project:

- Goal 1: Develop a mix of residential housing products to accommodate a variety of desires in the market.

- Goal 2: Prioritize the age-restricted development as a vibrant community with diverse housing types and densities allowing residents to age-in-place.
- Goal 3: Develop a community core area that serves as a central community gathering place for social interaction, recreation, retail, services, and living space.
- Goal 4: Promote health and wellness through extensive pedestrian and bicycle trails, outdoor recreation areas, and opportunities for social interaction.
- Goal 5: Respect the natural resources (i.e., Stanislaus River), terrain, and character of land by designing a residential community that highlights the scenic views of the Plan Area.
- Goal 6: Achieve a safe and efficient circulation system for all users and modes of transportation.
- Goal 7: Highlight village identity while promoting community amenities.

The following additional quantifiable objectives for the Specific Plan are identified below (but are not part of the CEQA-required statement of objectives):

- Development of up to 2,432 residential dwelling units within residential designations including:
    - 1,550 – Low Density Residential Units
    - 702 – Medium Density Residential Units
    - 180 – High Density residential Units
- Development of approximately 71.75 acres of Mixed-Use for the development in six specific areas offering neighborhood-scale retail uses, offices, personal and commercial services, with opportunities for higher-density residential development in a vertical or horizontal mixed-use setting.
    - MU-1 – Approximately 39 acres of general retail use, possibly shopping center with visitor serving uses, resulting in up to 420,000 square feet of space under a .25 FAR, or up to 350 residential units, assuming a development density of around 18 units to the acre.
    - MU-2 and MU-3 – Approximately 15.35 acres, of a retail use that can serve a passerby, as well as local residents (i.e., gas station, small restaurant, real estate sales, law firm, tax firm, medical/dental, etc.) resulting in up to 175,000 square feet of space under a .25 FAR.
    - MU-4 – Approximately 8.01 acres for an age-restricted active adult community clubhouse with a 20,000 square foot clubhouse building with fitness center, restaurant, lounge, event/meeting space, outdoor pool/spa, outdoor BBQ and seating area, tennis/pickle ball courts, bocce ball courts, community garden area, and other amenities.
    - MU-5 – Approximately 5.35 acres for an age-restricted active adult multi-story building with neighborhood retail uses on the first story and high-density housing or office on the second story. The first story uses would include small restaurants (i.e., coffee shop, deli, small office services). The first story is anticipated to have up to 110,000 square feet of building space. The second story is anticipated to have up to 110,000 square feet of building space, which could be up to 100 high density units, or commercial/retail serving uses, or a combination of both.

- MU-6 – Approximately 4.04 acres of a retail use that can serve a passerby, as well as local residents (i.e., gas station, small restaurant, real estate sales, law firm, tax firm, medical/dental, etc.) resulting in up to 44,000 square feet of space under a .25 FAR.

- Development of approximately 204.98 acres of Park, Greenway, and Open Space.

2.4 PROJECT DESCRIPTION

PROJECT ENTITLEMENT REQUESTS

The proposed project is the expansion of the City of Riverbank Sphere of Influence, and approval and subsequent annexation and implementation of the Specific Plan. The Sphere of Influence expansion covers approximately 1,522 acres. The Specific Plan covers approximately 997 acres of the Sphere of Influence expansion area, and includes an annexation into the Riverbank City limits, extension of infrastructure to the annexed area to serve development, and the subsequent development of the annexed area for: Low Density Residential, Medium Density Residential, High Density Residential, Mixed-Use, and Parks/Recreation, including all infrastructure and utilities necessary to service the development.

The proposed Project would require a City of Riverbank General Plan Amendment to change land uses in the Project Area. Table 2.0-4 shows the proposed land uses within the Project Area.

TABLE 2.0-4: PROPOSED GENERAL PLAN LAND USE DESIGNATIONS

PROPOSED LAND USE	*GIS ACRES*
BGOS - Bluff	68.53
BGOS - Canal	23.34
BGOS - River Park	69.77
Dual Use Park/Ponding Basin	41.01
HDR	10.02
LDR	467.18
MDR	78.70
Mixed Use	76.76
Park	43.34
Reserve	579.39
Rights of Way	63.37
Total	**1,521.41**

Figure 2.0-7 illustrates the current Riverbank General Plan land uses within the Plan Area. Proposed General Plan land uses are shown on Figure 2.0-8. The proposed amendment to the City's Circulation Element would include relocation of certain planned roads identified in the General Plan.

This EIR analyzes the SOI Expansion area, and it is intended to be used by Stanislaus County Local Agency Formation Commission (LAFCo) for its consideration of the SOI amendment and annexation of the Specific Plan Area. LAFCo will require the Specific Plan Area to be pre-zoned by the City of Riverbank in conjunction with the proposed annexation request. The City's pre-zoning for the annexation area will include the Specific Plan (SP) zoning designation for the entire Specific Plan Area, and a small portion of Mixed-Use (CX-1) in the southeast portion of the Project Area and adjacent to the Specific Plan area. The remainder

of the Project Area to the west would remain unassigned. The pre-zoning would go into effect upon a LAFCo annexation approval. The proposed pre-zoning for the Project Area is shown on Figure 2.0-9.

The Specific Plan requires adoption by resolution, following public hearings before both the Planning Commission and the City Council. Additional entitlement applications that are necessary for the implementation of the Specific Plan may be made concurrently with the Specific Plan application, while others may follow. It is noted that the Environmental Impact Report is intended to be a project-level analysis of the Specific Plan area where there is sufficient design detail and access to property for detailed analysis, and as a program-level analysis for the balance of the Project Area. The area under the program-level analysis is anticipated to require additional environmental review once sufficient design and access to the property is available.

SPECIFIC PLAN CHARACTERISTICS

The Specific Plan is a Mixed-Use development project that provides for a range of residential housing densities, neighborhood-scale retail, commercial and health/medical services, private clubhouse, public recreation, a pedestrian/bicycle trail system, and extensive open space and landscaping. The Specific Plan provides an opportunity for an active adult community on a portion of the Specific Plan Area, with the remaining portion designed for all ages.

Residential

The Specific Plan provides for up to 2,432 dwelling units in 18 residential villages. A portion of the Specific Plan is designed as an age restricted active adult community, while a portion of the Plan is not age-restricted. The Specific Plan would result in the development of up to 1,550 Low Density Residential (LDR) units, up to 702 Medium Density Residential (MDR) units, and up to 180 High Density Residential (HDR) units within these 18 residential villages. Housing products would range from single family detached, accessory dwelling units (ADUs), duplexes, cluster homes, courtyard homes, alley loaded homes, motor courts, townhomes, condominiums, apartments, senior apartments, assisted living, or memory care. Densities would range from 0-8 units per acre under the Low Density Residential designation, 8-16 units to the acre under the Medium Density Residential designation, and 16+ units to the acre under the High Density Residential designation. Zoning for these villages would fall under the R-1, R-2, and R-3 designations. Table 2.0-5 provides a breakdown of each village. The total development potential is estimated at up to 2,432 dwelling units as follows:

- 1,550 – Low Density Residential Units
- 702 – Medium Density Residential Units
- 180 – High Density residential Units

Age-restricted Active Adult: The residential portion of the Specific Plan could include up to 13 villages that provide a location for age-restricted active adult development, each designed with varying anticipated housing product types and densities to offer flexibility and variation within an active adult community. The villages for which age restrictions are proposed are shown below in Table 2.0-5.

Any ADU in an age restricted portion of the Plan will exempt caretakers living in the unit from the age-restrictions.

Not Age-restricted: The residential portion of the Specific Plan provides for 5 villages planned for more traditional single-family development, each designed with varying anticipated housing product types and densities to offer flexibility and variation within the community.

Flexible Design Provision: The Specific Plan includes a flexible design provision to enable each residential village to be designed with a variety of housing products varying in lot and product sizes. Under this flexible design provision, the final design of villages may include up to 25% of the lots designed at a density consistent with greater density products, as long as the average density does not exceed density allowed for the land use.

TABLE 2.0-5: RIVER WALK SPECIFIC PLAN RESIDENTIAL VILLAGE SUMMARY

VILLAGE	*LAND USE*	*AGE RESTRICTED*	*LOT COUNT*
A	Low Density Residential	No	101
B	Low Density Residential	No	42
C	Low Density Residential	Yes	254
D	Low Density Residential	Yes	207
E	Low Density Residential	Yes	148
F	Low Density Residential	Yes	173
G	Low Density Residential	Yes	97
H	Medium Density Residential	Yes	157
I	High Density Residential	Yes	180
J	Medium Density Residential	Yes	227
K	Medium Density Residential	Yes	318
L	Low Density Residential	Yes	176
M	Low Density Residential	Yes	48
N	Low Density Residential	Yes	29
O	Low Density Residential	Yes	70
P	Low Density Residential	No	67
Q	Low Density Residential	No	108
R	Low Density Residential	No	30
Total	--	--	2,432

NOTES: DU/AC = DWELLING UNITS PER NET ACRE; THE FINAL UNIT COUNT FOR EACH VILLAGE MAY SHIFT SOME DURING ENGINEERING DESIGN AND FINAL MAP PROCESSING, BUT THE CUMULATIVE TOTAL NUMBER OF UNITS TO BE DEVELOPED IN THE SPECIFIC PLAN IS ANTICIPATED TO BE WITHIN THE RANGE OF UNITS DOCUMENTED IN THIS EIR.

The proposed residential land uses are further described below:

Low Density Residential (LDR): The LDR designation is intended to provide primarily detached, single-family dwellings on a variety of lot sizes and neighborhood configurations. Lot sizes will vary, and are expected to range in size from 5,000 square feet and larger in accordance with the General Plan. The density within this category, however, ranges from 0-8 dwelling units per acre which allows for a variety of lot sizes.

Medium Density Residential (MDR): The MDR designation is intended to provide areas with smaller lot sizes for both attached and detached housing including but not limited to cluster homes, courtyard homes,

motor courts and townhomes. Lot sizes will vary, and are expected to range in size from 2,500 square feet and larger. The density within this category, however, ranges from 8 to 16 dwelling units per acre which allows for a variety of lot sizes.

High Density Residential (HDR): The purpose of the HDR land use designation is to provide attached, single-family and multi-family housing, including condominiums, apartment buildings, townhouses, and other similar residential structures developed as a higher density residential option to residents of the Specific Plan area. The "minimum" net density allowed within the HDR designation is 16 dwelling units or more per acre. The average density in the Specific Plan is 18 units per acre within the HDR category.

Mixed-Use

The Mixed-Use portion of the Specific Plan would accommodate neighborhood-scale retail uses, offices, personal and commercial services, and similar land uses. This land use classification is anticipated to be mainly non-residential; however, the Mixed-Use designation also explicitly allows for higher-density residential development in a vertical or horizontal mixed-use setting. This could include residential development above (on upper stories of a building) or adjacent to commercial operations on the same property. Mixed-Use designated areas will be designed to be accessible, safe, and convenient for bicyclists, pedestrians, transit users, and drivers.

There are six different Mixed-Use areas, each with an anticipated type of end user. The total square footage is anticipated to be up to 880,000 square feet, or a variation of not less than 385,000 square feet with up to 450 High Density Residential units. For purposes of the environmental analysis, the modeling assumptions will be based on 644,000 square feet of retail/commercial and 275 residential units in this Mixed-Use category. Each Mixed-Use area is described below:

- **MU-1** – Given the larger size of this Mixed-Use area, combined with the accessibility/exposure to a higher traffic volume along Patterson Road, this is anticipated to be a general retail use, possibly shopping center with visitor serving uses. This land use does not have a specific FAR restriction, but it is anticipated that this site could develop up to 420,000 square feet of space under a .25 FAR if it were developed for strictly for commercial/retail. This Mixed-Use area could also provide high density residential uses for up to half of the area, about 300 to 350 units, assuming a development density of around 18 units to the acre. If high density residential development occurs, it will have a commensurate reduction in the square footage of retail uses provided. For purpose of this analysis, it is assumed that 75% of the development potential will be commercial/retail and 25% will be high density residential. This assumption equates to approximately 315,000 square feet of retail and approximately 175 residential units. It is noted that the existing uses are allowed to continue under the Existing Non-conforming standard noted at the end of this chapter.

- **MU-2 and MU-3** – Given the smaller size of these parcels (approximately 8 and 7 acres respectively), combined with the accessibility/exposure to a higher traffic volume along Patterson Road, these parcels are anticipated to be a retail use that can serve a passerby, as well as local residents. Example uses would include a gas station, small restaurant, or other visitor serving use. This area could also function as an office use for service providers. Examples of services provides

could include real estate sales, law firm, tax firm, medical/dental, etc. Under a .25 FAR, these parcels could develop up to 175,000 square feet of space. This Mixed-Use area would be allowed to, but is not be anticipated to provide high density residential uses.

- **MU-4** – This is site is specifically located to serve as a clubhouse for the active adult community. The clubhouse is anticipated to include an approximately 20,000 square foot clubhouse building with fitness center, restaurant, lounge, event/meeting space, plus a variety of outdoor amenities including a pool/spa, outdoor BBQ and seating area, shade structures, tennis/pickle ball courts, bocce ball courts, community garden area, and other amenities. This clubhouse will serve as a focal point for the active adult community core. The roadway fronting this site will involve a modification to the major collector to slow traffic and create a community core feel with on-street diagonal parking, two travel lanes, landscape area, and a large pedestrian storefront walkway. This Mixed-Use area would not provide high density residential uses.

- **MU-5** – This approximately 5-acre site is specifically located to serve age-restricted active adult uses and, to complement other attractions planned in this focal area of the Specific Plan including the clubhouse, community park, and high density residential/assisted living housing. The buildings are anticipated to be multi-story with neighborhood retail uses on the first story and high-density housing or office on the second story. The first story uses would include small restaurants (i.e., coffee shop, deli, etc.) and small office services. The first story is anticipated to have up to 110,000 square feet of building space, not including outdoor seating areas. The second story is anticipated to have up to 110,000 square feet of building space, which could be up to 100 age restricted high density units, or commercial/retail serving uses, or a combination of both. The roadway fronting this site will involve a modification to the major collector to slow traffic and create a community core feel with on-street diagonal parking, two travel lanes, landscape area, and a large pedestrian storefront walkway.

- **MU-6** – Given the smaller size of these parcels (approximately 4 acres), combined with the accessibility/exposure to a higher traffic volume along McHenry Avenue, these parcels are anticipated to be a retail use that can serve a passerby, as well as local residents. Example uses would include a gas station, small restaurant, or other visitor serving use. This area could also function as an office use for service providers. Examples of service provider could include real estate sales, law firm, tax firm, medical/dental, etc. Under a .25 FAR, these parcels could develop up to 44,000 square feet of space. This Mixed-Use area would be allowed to, but is not anticipated to provide high density residential uses.

Parks and Open Space

The Specific Plan provides for the development park, greenway, and open space areas with a variety of passive and active recreational opportunities. The park and open space will fall into two different land use designations: Parks (P), and Buffer/Greenway/Open Space (B/G/OS). Each of these uses are described below:

Parks (P): This category includes active and passive parkland of all types. Neighborhoods shall have close and convenient access to community parks, neighborhood parks, and smaller “pocket parks.” This

category can include public plazas, town squares, tot lots, parkways, linear parks, and other park space configurations. The Park land use provides visual interest to the residents and visitors; provides connectivity amongst residences and land uses; creates gathering places for active and passive recreation; promotes walk-able, pedestrian-friendly neighborhoods; and preserves areas with existing natural resources (i.e., Stanislaus River) and natural topographic challenges. The Specific Plan includes an extensive network of Parks to serve the community. It is also noted that several stormwater basins have been incorporated into the Specific Plan for storm drainage function, but are also intended to provide a dual use park opportunity.

Buffer/Greenway/Open Space (B/G/OS): This designation provides the opportunity to preserve important open spaces containing natural resources, such as sensitive biological habitat. This category also includes areas where buffering is necessary between different land uses. Bicycle and pedestrian pathways can be accommodated by this Land Use Designation. Within the B/G/OS category several subcategories are included including B/G/OS–Bluff, B/G/OS–Canal, and B/G/OS–River Park.

Reserve

Reserve: The Reserve category is intended for land that the City has not yet planned for a specific urban or resource land use. This area offers an opportunity to plan for future land uses by identifying specific criteria before development takes place in these areas. The Reserve designation does not denote any specific land use, but rather is an overlay designation that specifies additional requirements related to timing of development, analysis required by the City, infrastructure and service standards, and related topics. Before making Reserve areas eligible for consideration for urban development, the area would need to have a land plan developed and processed through the standard application process, including a detailed environmental analysis. Within the Specific Plan area, the Reserve designation is an area with an existing cherry orchard and is intended to remain under orchard use for the foreseeable future. This could include replanting the orchard area if trees stop producing. As an alternative, the existing orchard area may be utilized as shallow flood storage to contain and infiltrate stormwater runoff from the project.

SPECIFIC PLAN ENTITLEMENT REQUEST

To enable the development of the land uses and zoning described above, the proposed Project includes a request for a General Plan Amendment, Specific Plan adoption, pre-zoning, and annexation of the entire Specific Plan Area as well as APNs 074-005-012, 074-005-013, 074-005-010, and 074-005-011. All other lands that are included within the SOI expansion area, but outside the Specific Plan area are not proposed for development at this time and thus are not included in the Specific Plan adoption, pre-zoning, or annexation request.

The Specific Plan estimates between 2,432 – 2,682 residential units, and 375,000 and 875,000 square feet of Mixed-Use for commercial, office, service, or retail use, as well as some transitional care facilities. A large portion of the Specific Plan is intended to be an age-restricted active adult community, while a portion will not be age restricted.

Table 2.0-6 provides a land use summary of the Specific Plan. Figures 2.0-8 and 2.0-9 illustrates the land use and zoning designations. Figure 2.0-10 illustrates the layout of the villages.

TABLE 2.0-6: RIVER WALK SPECIFIC PLAN LAND USE SUMMARY

MAP SYMBOL	*ACREAGE*	*DENSITY RANGE*	*ESTIMATED UNIT OR SF RANGE*
LDR – Low Density Residential	467.18	0 – 8 du/ac	1,550
MDR – Medium Density Residential	78.70	8 – 16 du/ac	702
HDR – High Density Residential	10.02	16 + du/ac	180
MU – Mixed-Use (outside of community core)	58.39	16 + du/ac 0.25 FAR	0 – 350 du 275,000-635,000 sf
MU – Mixed-Use (inside of community core)	5.35	16 + du/ac 0.50 FAR	0 – 100 du 110,000-220,000 sf
MU – Mixed-Use (Clubhouse)	8.01	0.50 FAR	20,000 sf
Park	43.34	N/A	N/A
B/G/OS - Bluff	68.53	N/A	N/A
B/G/OS - Canal	23.34	N/A	N/A
B/G/OS - River Park	69.77	N/A	N/A
Park - Ponding Basin	41.01	N/A	N/A
Reserve	60.17	N/A	N/A
ROW	63.37	N/A	N/A
TOTAL	**997.18**	--	**2,432 – 2,682 du 375,000 – 875,000 sf**

NOTES: SF = SQUARE FEET; DU/AC = DWELLING UNITS PER ACRE; FAR = FLOOR-AREA-RATIO; N/A = NOT APPLICABLE.
ASSUMPTION FOR ANALYSIS: MODELING ASSUMPTIONS WILL BE BASED ON 644,000 SQUARE FEET OF RETAIL/COMMERCIAL AND 275 RESIDENTIAL UNITS IN THE MIXED-USE LAND USES.

Circulation and Transportation

Implementation of the proposed Project will provide additional roadways, bicycle lanes, multi-use trails, and pedestrian amenities which link the Plan Area and other nearby developments. The Circulation Plan shows the relationship between existing roads and the future planned roads as identified in the Specific Plan and the City of Riverbank Circulation Element of the General Plan. These connections provide regional and local accessibility between land uses within and adjacent to the Plan Area.

EXISTING TRANSPORTATION NETWORK

The existing transportation network includes arterial and collector streets that predominately serve motorized travel, transit services, taxi-ride sharing services, and limited pedestrian and bicycle infrastructure. The following provides an overview of the existing transportation network in the Specific Plan Area.

The Specific Plan Area is primarily served by the following roadways:

- **Patterson Road** is a major east-west arterial that extends easterly from an intersection on McHenry Avenue through Riverbank across rural Stanislaus County into the area south of Oakdale to its eastern terminus at the Albers Road / Oakdale Road / Waterford Highway intersection. The segment through western Riverbank to Callander Avenue is State Route (SR) 108.

  Patterson Road is a two-lane rural highway from McHenry Avenue to the Hot Springs Lane intersection in western Riverbank. The route is a four-lane facility from that point east to Jackson

Avenue and is a two-lane road from Jackson Avenue through the Callander Avenue intersection. Patterson Road continues east as a two-lane road through Riverbank. Patterson Road forms the Plan Area's southern boundary.

- **McHenry Avenue** is a major north-south arterial that extends from the City of Modesto across the Stanislaus River to Escalon. The portion of McHenry Avenue south of Patterson Road is SR 108.

  McHenry Avenue varies in width, as the roadway has six lanes south of Coralwood Road, four-lanes from Coralwood Road through the Kiernan Avenue / Claribel Road intersection, and two-lanes north to San Joaquin County. Stanislaus County is currently pursuing a project to widen northern McHenry Avenue to four lanes. McHenry Avenue forms the western boundary of the SOI Expansion Area.

- **Coffee Road** is a north-south arterial street that extends south from Patterson Road across Claribel Road into Modesto and its southern terminus on Scenic Drive along the Tuolumne River. Coffee Road is a two-lane facility from Patterson Road to Mable Avenue and is a four-lane facility from that point south.

These routes generally provide direct access to the boundary of SOI Expansion Area from the surrounding residential villages and shopping centers within the City, and neighboring communities.

The Specific Plan Area is primarily served by the following alternative modes of transportation:

- **Pedestrian and Bicycle Network:** Pedestrian and bicycle movement along the Plan Area boundary is generally accommodated by existing streets and sidewalks along Patterson Road and McHenry Avenue. Mobility is significantly constrained by the existing street network's lack of continuous and adequate pedestrian and bicycle facilities and absence of roadways that extend into the Plan Area's interior.

- **Transit Service:** The Plan Area is served by Stanislaus Regional Transit (StaRT). StaRT offers fixed route services within the region. StaRT Route 60 operates Monday through Friday between 5:00 AM and 9:43 PM. This bus operates thirteen round trips between Modesto and Oakdale and passes through Riverbank. On Saturday between 6:15 AM and 8:34 PM, seven round trips are provided. The Saturday service is combined with the Modesto/Turlock route. This route follows Claribel Road and Oakdale Road and has a designated stop on Oakdale Road north of the Freddi Lane intersection.

  The Riverbank Dial-A-Ride service is available from 6:30 AM to 5:30 PM, Monday through Friday. The ADA Paratransit service is provided as a compliment to fixed route service and is available to individuals with disabilities Monday from 5:00 AM to 10:00 PM and Saturday from 6:15 AM to 9:00 PM. Paratransit operators are required by the ADA to service areas within three-quarters of a mile of their respective, public fixed-route service.

- **Taxi and Ridesharing Service:** Taxi service in the Plan Area is provided by private operators that serve the greater Stanislaus County area and beyond. Additional ridesharing services, such as Uber and Lyft, are also available in the Plan Area.

Parking in the Plan Area is located at the residences and businesses. The majority of the public parking supply is limited to the commercial businesses along Patterson Road in the southeastern portion of the Plan Area. The remainder of the Plan Area, occupied by agricultural and/or residential uses, offers limited off-street parking facilities. On-street parking facilities are not located along Patterson Road or McHenry Avenue.

PROPOSED CIRCULATION NETWORK

Figure 2.0-11 illustrates the circulation network for the Specific Plan. The Specific Plan provides for an extension of Coffee Road as a major collector road north into the Plan Area before heading northwest until the roadway meets McHenry Avenue. In addition, several new minor collector streets are also planned to link the villages, parks, amenities, clubhouse, and commercial area. It is noted that the Specific Plan provides a plan to develop a Neighborhood Electric Vehicle (NEV) system for the active adult villages and community core. The NEV system would require an ordinance approval and would be restricted to the Specific Plan Area. The proposed NEV Plan is summarized below following the discussion of street classifications.

Primary access to the Specific Plan Area would be provided at two locations: along the southern Plan Area boundary via the Coffee Road extension, and along McHenry Avenue in the northwestern corner of the Plan Area. Secondary access would also be provided via a major collector street extension from Patterson Road located east of the Coffee Road extension.

The Specific Plan provides the River Walk Trail which would loop around the entire Plan Area, providing connections from the residential areas to the various park and open space areas located throughout the Plan Area. The River Walk Trail is intended to provide complete connectivity, and may be a network of paved Class I Bike Paths and NEV lanes, as well as natural dirt trails that accommodates equestrian use.

Working together, this network of roadways, NEV lanes, bicycle lanes, trails, and sidewalks will provide convenient and safe access to all villages within the Plan Area. Construction of the roadway network will adhere to the adopted City Standards and Street Cross Sections. Figure 2.0-12 illustrates the Bicycle and Pedestrian Network.

The final alignments, footprints, and exact locations of the streets are subject to change and refinement as development inside and outside of the Plan Area proceeds. The final alignments and configurations will be determined at the improvement plan level in order to provide for operational safety and integration with the existing and planned traffic network. The final designation of NEV lanes as Class II or III within the roadway network will also be determined at the improvement plan phase. The circulation network's exact locations and alignments will be determined through collaboration between builders and City Staff during the development review process.

Street Classifications Included Within the Plan Area: The following describes the various street classifications and specific details associated with certain segments of roadway throughout the Specific Plan Area. Figure 2.0-13 illustrate the location of each roadway section.

- **Arterial streets:** Fully built out arterial streets feature four travel lanes, sidewalks on both sides of the street, bike lanes and landscape strips. Arterial streets are intended to function like

boulevards or thoroughfares and therefore do not allow on-street parking. Arterial streets are illustrated on Figure 2.0-11. (Circulation Network).

- **100-110' Arterial – Patterson Road (West of Canal Crossing):** This arterial roadway is an existing roadway along the southern boundary of the Specific Plan Area west of the MID Canal. The roadway currently has two 12' travel lanes, and two 8' shoulders. This roadway is a regional roadway and full buildout is anticipated to occur as more capacity is needed. The anticipated roadway section ranges from 100' to 110'. One half is expected to have two 12' travel lanes, a 7' median, an 8' bike lane/shoulder with curb/gutter, and 16' section with a separated sidewalk/bike path. The other half may mirror the half section described above, but is not defined at this time.
- **90-110' Arterial – Patterson Road (East of Canal Crossing):** This arterial roadway is an existing roadway along the southern boundary of the Specific Plan Area east of the MID Canal. The roadway currently is built out on the southside adjacent to the South Bend Estates neighborhood. The southside of the roadway has two 12' travel lanes, an 8' shoulder with curb/gutter, and a 10' section with sidewalk and landscaping. The north side has a 14' two-way left turn lane, a 12' travel lane, and an 8' shoulder. This roadway is a regional roadway and full buildout is anticipated to include converting the 14' two way left turn lane into a 14' median, adding a second 12' travel lane, a 7' median, adding an 8' bike lane/shoulder with curb/gutter, and adding up to 22' for landscaping with a separated sidewalk/bike path. It is noted that the right of way is currently 90' and given the existing development on the north side of Patterson Road in this area, it may be necessary to modify the roadway section based on the availability of right of way. Any reduction in right of way is anticipated to be accommodated within the 22' of landscaping/sidewalk area.

- **Collector roadways:** Collector roadways are smaller than arterials and typically have two to four travel lanes, sidewalks on both sides of the street, bike lanes where applicable and landscape strips. Collector roadways can be categorized as major or minor depending on their function. A major collector functions more like an arterial, moving higher volumes of traffic through an area. A minor collector functions to distribute traffic from the major collectors in residential villages. The Coffee Road extension is the most prominent collector within the Specific Plan Area, providing access from Patterson Road through the entire Specific Plan Area and exiting on McHenry Avenue. A second major collector provides access to the villages located in the high area of the Specific Plan, and is anticipated to have lower traffic volumes.
  - **110' Major Collector (Coffee Road):** This collector roadway is an extension of Coffee Road through the Specific Plan Area. The roadway enters from Patterson Road, and exits on McHenry Avenue. There are two modifications along this route that are described separately below. This roadway includes a 110' right-of-way with four 12' travel lanes, a 14' landscaped median, two 4' shoulders with curb/gutter, two separated 10' class 1 bike/ped paths, two 5' landscape area separated the travel and pedestrian areas, and two additional 5' landscape strips on the outer portion of the roadway section.

- **82' Major Collector Modification (Coffee Road - Downslope):** This collector roadway includes a modification to Coffee Road in a segment that travels downslope from the high area down to the low area of the Specific Plan Area. This modification is necessary to minimize the cut and fill of the bluff/slope area while maintaining the vehicle travel and bike/ped functions of the roadway. This roadway would taper from the 110' right of way into an 82' right-of-way, but would still maintain four 12' travel lanes. The median would be reduced to a 4' landscaped median, and the shoulders would be increased to two 8' with curb/gutter. A separated 10' class 1 bike/ped paths, with 10' of landscaping would be eliminated on the upslope side of the roadway. The downslope side of the roadway would include a 4' separated landscape strip and a 10' class 1 bike/ped path.
- **92' Major Collector Modification (Coffee Road – community core):** This collector roadway includes a modification to Coffee Road in a segment that travels through the community core area of the Specific Plan Area. This modification is necessary to reduce travel speeds, that in turn increase pedestrian safety, allow for on-street/store front parking, and create a unique atmosphere for citizens to gather and spend time shopping and recreating. This roadway would taper from the 110' right of way with four travel lanes into a 92' right-of-way with two travel lanes. The median would be eliminated, and a 20- on-street parking area would be created for diagonal parking with curb/gutter. A separated 10' class 1 bike/ped path is included with 4' of landscaping separated the pedestrians from the vehicles. This modification is intended for approximately one block, and is accessible for citizens traveling from the north and southern portions of the active adult residential villages.
- **82' Major Collector (access to Villages A, B, and R):** This collector roadway is a second access into the Specific Plan Area from Patterson Road. This roadway will primarily provide access only for the larger lot villages located in the high area of the Specific Plan Area (i.e., Villages A, B, and R), although it does extend into the remainder of the project. This roadway is not expected to have large travel volumes that are anticipated on the Coffee Road extension; therefore, a reduced roadway section is warranted. This roadway includes an 82' right-of-way with two 12' travel lanes, a 14' landscaped median, two 6' bike lane/shoulders with curb/gutter, two 6' landscaped area separating the two 5' sidewalks from the roadway, and two additional 5' landscape strips on the outer portion of the roadway section.
- **70' Minor Collector:** These collector roadways provide access from major collectors into the residential villages throughout the Specific Plan Area. These roadways are not expected to have large travel volumes that are anticipated on the major collectors because they function to distribute the volumes from the major collectors into the individual villages. This roadway includes a 70' right-of-way. One side of the roadway will include a 12' travel lane, 6' bike lane/shoulders with curb/gutter, a 6' landscaped area separating the a 5' sidewalk from the roadway, and an additional 5' landscape strip on the outer portion of the roadway section. The other side of the roadway will include a 12' travel lane, 5' bike lane, 8' parking/shoulders with curb/gutter, and a 5' landscaped area separating the 5' sidewalk from the roadway.

- **Local Residential Streets:** These smaller streets are designed to handle small volume, neighborhood traffic with low speeds. The local residential streets proposed for the Project will feature two travel lanes, sidewalk and landscape strips on both sides. On-street parking is permitted on local residential streets to provide additional parking for the residents of the villages within the Plan Area.
    - **56' Local Residential Street (separated sidewalks):** This local roadway is one alternate section of roadway within the residential villages. This roadway includes a 56' right-of-way with two 10' travel lanes, two 8' on-street parking/shoulders with curb/gutter, two separated 5' sidewalks, and two 5' landscape area separating the sidewalk from the roadway.
    - **48' Local Residential Street (without separated sidewalks):** This local roadway is one alternate section of roadways within the residential villages. This roadway includes a 48' right-of-way with two 10' travel lanes, two 8' on-street parking/shoulders with curb/gutter, and two 6' sidewalks.
- **Cul-de-Sacs:** Cul-de-sacs are a popular street treatment in residential villages and are appealing to families with children because they provide a closed end street that does not allow through traffic. Cul-de-sacs proposed within the Plan Area will be designed and built according to City of Riverbank Street Standards and will provide adequate turning radius for emergency vehicles.

NEIGHBORHOOD ELECTRIC VEHICLES AND GOLF CARTS

Neighborhood Electric Vehicles (NEVs) are one of several types of Low Speed Vehicle (LSV), also known as Low Speed Electric Vehicle or (LSEV) that may be desirable for use within the age-restricted active adult portion of the Specific Plan Area. There are generally three principal types of LSVs:

- Golf cars (carts) that are factory designed to travel up to 15 mph within golf course environments. Golf cars that are not modified for on-street use may be used on roadways or paths designated for such use by local jurisdictions.
- Golf cars that are modified after manufacture for use on public streets and can travel up to 25 mph. While increasingly common, DMV guidance (FFVR37) requires owners to register them as motor vehicles that meet regular passenger vehicle standards or risk a citation.
- NEVs that are designed and manufactured to be used on streets with posted speed limits up to 35 mph and can travel up to 25 mph.

The California Vehicle Code (CVC) permits NEVs on all roadways with posted speed limits of 35 mph and under. NEVs are also permitted on roadways up to 55 mph within on-street Class II NEV striped lanes. For roadways with posted speed limits above 55 mph, NEV travel can only be accommodated with a separated off-street path.

NEV crossings at roadways with speed limits above 35 mph must be orthogonal (90-degree intersection angles). The code states:

- The operator of a low-speed vehicle may cross a roadway with a speed limit in excess of 35 miles per hour if the crossing begins and ends on a roadway with a speed limit of 35 miles per hour or less and occurs at an intersection of approximately 90 degrees.

However, the CVC also permits NEVs on roadways with a posted speed of 40, 45, or 50 mph where that roadway has a dedicated NEV / bike lane. Such use would be impractical if turning or crossing movements were not continuous. The CVC is interpreted to mean that at an intersection, as long as the NEV / bike lane is carried all the way through the approach up to the stop line, and again on the departure side of any leg that a NEV would be permitted to travel to, the movement would be permitted. If the movement is a left turn, then the NEV driver could perform:

- A two-stage turn (with or without special provisions) although at higher volumes there could be an issue with queuing space for NEVs.

- A vehicular style left turn, where an NEV/bike lane is available to turn into on the departure side. The NEV driver would not be in a designated NEV lane on the approach; like a vehicular bicyclist, they would be in the general traffic left turn lane. Even on a green indication, there should not be an issue with this because a NEV has similar acceleration and cornering capabilities as an automobile.

PROPOSED NEV PLAN

Definitions: "Neighborhood Electric Vehicle (NEV)" means an electric powered motor vehicle having not less than four wheels in contact with the ground and an unladen weight of less than three thousand pounds which is designed to be and is operated at not more than 35 mph and is designed to carry not more than six persons, including the driver.

"NEV lanes" is synonymous with "NEV routes" and means all publicly owned facilities that provide for NEV travel including roadways designated by signs or permanent markings which are shared with pedestrians, bicyclists, and other motorists in the portion of the River Walk Specific Plan Area designated for active adult living. There shall be three categories of NEV lanes:

- Class I NEV lanes provide a right-of-way completely separated from any roadway, with cross traffic by other motorists minimized, and designated for the exclusive use of NEVs, or, where feasibly safe and when no parallel improvements for pedestrians and bicyclists are available, designated for the shared use of NEVs, bicyclists, and pedestrians. Class I NEV lanes may include portions of the River Walk Trail, and Class I bike paths throughout the Specific Plan Area.

- Class II NEV lanes provide a restricted right-of-way on a roadway designated by striping and signage for the exclusive or semi-exclusive use of NEVs, with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross traffic by pedestrians and other motorists permitted. Class II NEV lanes may include portions of Major Collectors (i.e., Coffee Road) within the active adult portion of the Specific Plan Area.

- Class III NEV lanes are lanes on streets with speed limits of forty-five miles per hour or less and are shared with pedestrians, bicyclists, and other motorists. Class III NEV lanes would include all

Local Residential Streets, Minor Collectors, and portions of Major Collectors (i.e., 92' Major Collector Modification (Coffee Road – community core).

Proposed Pedestrian, Bicycle, and Transit Circulation: The Specific Plan proposes an integrated network of pedestrian, transit, and bicycle facilities, including continuous sidewalks, crossings at intersections, new pedestrian and bicycle routes, and transit facilities.

New bicycle and pedestrian facilities are provided along streets as well as along off-street multi-use paths, such as the River Walk Trail. Figure 2.0-12 illustrates the proposed pedestrian, bicycle, and transit facilities within the Plan Area.

The final alignments, footprints, and exact locations of the pedestrian, bicycle, and transit facilities are subject to change and refinement as development inside and outside of the Plan area proceeds and site-specific details are developed. The final alignments and configurations will be determined in order to provide for operational safety and integration with any existing and planned offsite pedestrian, bicycle, and transit network. The circulation network's exact locations and alignments will be determined through collaboration between developers and City Staff during the development review process.

- **River Walk Trail:** The Specific Plan provides the River Walk Trail which would loop around the entire Plan Area, providing connections from the residential areas to the various park and open space areas located throughout the Plan Area. The River Walk Trail is intended to provide complete connectivity, through a network of paved Class I Bike Paths and NEV lanes, as well as natural (unpaved) trails.

  The River Walk Trail will wind through open space areas and generally follow the exterior edges of residential neighborhoods. Where the River Walk Trail is located adjacent to aquatic and/or natural resources, such as riparian areas, agricultural ditches, the MID Canal, and Stanislaus River, design of the trail will avoid the resource to the extent possible through buffers and setbacks.

  Rest stops, wayfinding signage, benches, picnic tables and other accessory equipment will be located along the Trail. A trailhead is anticipated at the center of the Plan Area, northeast of the Clubhouse and Community Park. Additional access points to the Trail will be located in residential neighborhoods and at locations adjacent to open space areas.

- **Class I Bike Paths and Class II Bike Lanes:** The bicycle network consists of approximately 4.8 miles of Class I bike paths and 14.2 miles of Class II bike lanes, as shown on Figure 2.0-12. The bikeway system encourages pedestrian and bicycle movement within the Plan Area and provides linkages among land uses, neighborhood sidewalks, and the River Walk Trail.

  The planned bicycle network consists of two components: Class I bike paths located along the River Walk Trail, and Class II bike lanes along the main arterial road and collector roads. Together, these components provide a system of on- and off-street bikeways.

  Class I paths typically consist of a 10-foot wide paved path with lane striping and two feet of decomposed granite or gravel shoulders on each side.

Class II bikeways are designated bike lanes located on roadways, separated from auto travel by signage and striping. The width of these lanes varies depending on the roadway type, with collector streets having bike lanes 5-7 feet wide and arterials having sidewalk/bike lanes 8-10 feet wide.

- **Pedestrians Sidewalks and Amenities**: Sidewalks are required along Plan Area public roadways to provide safe non-motorized travel. Along most roadways, sidewalks will occur on both sides of the roadway and will range from 5 to 10 feet wide. Some will be separated from the roadway with a landscape strip, while in some locations the sidewalk will abut the curb.

  Class 1 facilities are to be shared with pedestrians, cyclists and NEV users, while the 5-foot walks are for the use of pedestrians. The HDR and mixed-use areas in the community core area is designed with larger sidewalks abutting the curb, with diagonal on-street parking for vehicles and NEVs.

- **Public Transportation:** Stanislaus Regional Transit operates loop Route 60 through Riverbank and into Oakdale. Riverbank Dial-a-Ride operates routes throughout the City. These public transit providers will be integral partners in establishing routes, developing suitable turnout locations, and shelter facilities within the Plan Area. To support the use of public transit, it is likely these facilities will be placed near the highest intensity uses in the Plan Area including the Clubhouse, High-Density Residential units and the Community Commercial center.

  Transit facilities, such as shelters, bus turnouts, benches and ticketing facilities will be incorporated into improvement plans in conjunction with the City's Development Services Department and Stanislaus Regional Transit.

- **Crossings:** Intersections serving the Specific Plan area should effectively balance traffic flow needs with the needs of pedestrian and bicyclists. Techniques such as using curb extensions or "bulb outs" to reduce crossing distances can all help balance the sometimes-competing needs of drivers and pedestrians. The use of enhanced crosswalk markings provides visual cues to drivers that they are entering an area of increased pedestrian activity. Crosswalk markings may include high-visibility striping and other similar distinguishing treatments. Enhanced crosswalk markings are encouraged at public and private intersections in the clubhouse area and on the primary pedestrian routes leading to the mixed-use commercial centers.

  The Specific Plan generally aligns trail and path crossings of streets to be located at intersections. Given the arterial street and trail configuration and volumes anticipated on Coffee Road, need for mid-block crossings would need to be controlled by a pedestrian hybrid beacon (sometimes referred to as a "HAWK" signal) or a traffic signal.

  The River Walk Trail crossings may also warrant installation of a pedestrian hybrid beacon or signal; however, depending upon traffic volumes, the crossing may also function well with high-visibility crosswalk markings coupled with pedestrian-activated warning lights. While trails and paths should also cross lower-volume residential streets at intersections where possible, mid-block crossings of these streets could also be allowed as long as enhancements (such as high-

visibility signs and markings or median refuge islands) are used to increase driver awareness of the crossing. All crossing areas should also be well-lit by street lighting.

UTILITIES AND PLANNED INFRASTRUCTURE IMPROVEMENTS

The construction of on-site infrastructure improvements would be required to accommodate development of the proposed Project, and are briefly described below.

Proposed Water System

Domestic water service will be provided to the Plan Area through the installation of a pressurized water system made up of wells, water tanks, water mains, and a pressure regulating station. Figure 2.0-14 illustrates the preliminary water plan. It is noted that the final location of water mains, tanks, wells, and pressure regulating stations is subject to change.

Due to the elevation differences across the Plan Area, the water system has two pressure zones (PZ-1 and PZ-2), which call for pressure regulating stations to be incorporated into the project. The water system is made up of 12" water mains located predominately in the arterial and collector roadways. The 12" lines will feed into a system of 8" lines and ultimately into the individual service connections. The water system ultimately requires two wells, which preliminary plans call for in the eastern and northern portions of the Specific Plan Area.

The water system ultimately requires a 2-million-gallon water tank. A variety of engineering considerations were made to find the best location for the tank, but another important factor was visibility. It was determined that the tank could be situated in the eastern portion of the Specific Plan Area in an area near a planned storm drainage basin, outside a residential village, and partially hidden by topography.

It is proposed to connect to the existing City water system with a proposed 12-inch transmission main in Patterson Road. This main would extend from the project, and connect to an existing 12" waterline at approximately 400 feet to the west of the intersection of Hot Springs Lane. As an alternative, a secondary connection to the existing City water system may be made in Cipponeri Road, approximately 450 feet south of the intersection of Candlewood Place.

While a tank and two wells are needed to serve the ultimate build-out of the plan area, all of these items will not be needed to serve the initial stages of development. A detailed study will be performed with the preparation of improvement plans that will indicate the timing of when the proposed tank and wells will be necessary to serve the development.

The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed water supply, transmission main lines, water storage tank, and well site upon installation of the improvements.

The proposed wells to be constructed with the Specific Plan Area will be sufficient to supply the needs of the proposed Project. The connection to the City system is intended to provide some initial development in advance of constructing a well site, as well as to provide some system redundancy/reliability in case

one or more components of the Specific Plan infrastructure needs to be taken offline (e.g. water main break, well taken offline due to pump failure). Upon connecting to the citywide system there will some water flow from the Project wells that serves the citywide system.

Sanitary Sewer System

Sanitary sewer will be provided to the Plan Area through the installation of force mains, pump stations, and a network of gravity flow sewer mains. Figure 2.0-15 illustrates the preliminary sanitary sewer plan. It is noted that the final location of force mains, pump stations, and sewer mains is subject to change.

The sanitary sewer system calls for three pump stations (Northeast Pump Station, South Pump Station, and West Pump Station). Additionally, there is an alternative location for the South Pump Station.

The gravity flow system is made up of 24", 18", 15", 12", 10", and 8" sewer mains located predominately in the arterial and collector roadways. The system will also have a network of 8" sewer mains within the residential villages ultimately connecting to each home. Gravity sewer mains will convey all collected wastewater from the Plan Area to one of the three pump stations, which will in turn ultimately discharge all flows to the Northeast Pump Station.

The ultimate strategy for the Specific Plan requires force mains to cross under the Stanislaus River from the Northeast Pump Station and travel approximately 1.4 miles to the Wastewater Treatment Plant, following the approximate alignment of an existing farm road. The river crossing involves installing a 10" force main to serve the Specific Plan, and a 16" force main that can be used for future development in the City of Riverbank Sewer Sheds 2 and 3, which are located south of Patterson Road. Any extension of the 16" sewer line would be done at a future time by others. The 1.4-mile extension of the sewer line is an offsite improvement that is included in the analysis of the EIR for the Specific Plan. The line would cross APN 247-25-21 (Roberson Ranch Development LLC), APN 247-25-22, 247-25-4, and 247-26-2 (City of Riverbank). The location of the sewer line was evaluated to ensure it was setback from the Stanislaus River and any riparian habitat associated with the river.

Sanitary sewer from a portion of the plan area may also be conveyed to the existing City sanitary sewer collection system. This would be implemented as an interim measure until the proposed force main is constructed under the Stanislaus River, and extended to the wastewater treatment plant. The interim connection to the City sewer system would consist of a pump station constructed near the south end of the Plan Area, with a force main to convey wastewater to the existing City sewer collection system. Potential alternative interim points of connection to the City sanitary sewer collection system include:

1. Existing pipeline near the intersection of Hot Springs Lane and Patterson Road.
2. Existing pipeline terminus in Patterson Road, approximately 450 ft. west of the intersection with Oakdale Road.
3. Terminus of Cipponeri Road, approximately 450 ft. south of the intersection with Candlewood Place.

The quantity of development units to utilize this interim connection to the existing City system will be determined based on available capacity within the existing system, intended pace of development, and construction cost. These interim connections would flow through the Topeka (Jackson to SR 108) area that

is currently at/near capacity as it is only a 12" main. This was proposed to be replaced in the 2001 Master Plan but has not been completed. The City and developers will need to determine if there is the ability to accept additional flows on this line prior to authorization of any use. Detailed studies will be performed to verify sufficient capacity exists in the existing downstream system, as well as to identify any improvements to accommodate additional flows, if necessary.

The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed sanitary sewer system upon installation of the improvements.

Storm Drainage System

The City of Riverbank adopted a Low Impact Development Design and Specifications Manual to assist developers in meeting State and local mandates for storm water drainage. The Specific Plan Area is identified as a greenfield/rural residential property in the Low Impact Development Design and Specifications Manual and does not have any other land data available due to it being outside the current city limits.

The storm drain system will be designed consistent with the LID requirements of the City of Riverbank. Storm drainage will be provided to the Plan Area through the installation of a storm drain mains, basins, and pump stations. It is anticipated to utilize MID owned facilities for storm drainage discharge pending an agreement with MID. If discharge agreements with MID cannot not be executed, stormwater will need to be retained within the basins and infiltrated into the subsurface soils by using infiltration trenches, or horizontal drains ("French drains"). Figure 2.0-16 illustrates the preliminary storm drain plan. It is noted that the final location of storm drain mains, basins, and pump stations is subject to change. Boundaries and sizes of watersheds are also subject to change.

Stormwater will be collected through a network of gutters, inlets, and storm drains that will direct storm water to storm water basins constructed within the Specific Plan Area. All stormwater would be pre-treated in accordance with current NPDES requirements, and would be detained prior to discharge into the MID canals or the Stanislaus River. Basins would be capable of storing the 50-year storm volume in accordance with City of Riverbank standards. Each watershed and basin are described below:

- The **North Basin** is designed to serve a 214-acre watershed with two connected basins totaling 6.2 acres combined that have a 24.9 ac-ft capacity. The basin has two alternatives: 1) Infiltration trench (French Drains approx. 4,850 LF, 6'Wx8'D), or 2) Pump Station that would discharge to the Stanislaus River at a flow of 2,365 GPM.
- The **West Basin** is designed to serve a 226-acre watershed with a 7.3-acre basin that has a 28.5 ac-ft capacity. The basin includes a Pump Station that would discharge to the MID Main Canal at a flow of 2,583 GPM.
- The **East Basin** is designed to serve a 231-acre watershed with a 5.8-acre basin that has a 25.8 ac-ft capacity. The basin includes a Pump Station that would discharge to the MID Spenker Drain at a flow of 2,335 GPM.
- The **South Basin** is designed to serve a 68-acre watershed with a 1.2-acre basin that has a 6.3 ac-ft capacity. The basin includes a Pump Station that would discharge to the MID Spenker Drain at a flow of 573 GPM.

- **Area A** is a 48-acre watershed with the exact location and design to be determined. This area currently has several homes, a nursery, and agricultural land. The storm drainage design would be needed as the property owners contemplate development of this land.
- **Area B** is a 34-acre watershed with the exact location and design to be determined. This area currently has four large estate homes and a variety of agricultural land. The storm drainage design would be needed as the property owners contemplate development of this land.
- **Area C** is a 15.5-acre watershed with the exact location and design to be determined. This area currently is agricultural land. The storm drainage design would be needed as the property owners contemplate development of this land.
- Note that Areas A, B, and C can provide storm drainage on an individual parcel basis as those parcels develop. Alternatively, they may accommodate storm drainage through a shared basin (or basins) if agreed to by the landowners within those watersheds. The determination to utilized shared basins or individual basins within each parcel will be made at the time of development within those watersheds.

Watershed sizes, boundaries, design volumes, infiltration trench sizes, and discharge flowrates shown herein are preliminary, only, and are subject to change as the project design advances into improvement plans.

The aforementioned basin volumes are based on the runoff from a 50-year, 24-hour storm event, which must be held no less than six inches below the lowest tributary rim elevation, consistent with City of Riverbank Standards. The proposed pump discharge rates are such that they would evacuate the volume from a 10-year design storm over a 48-hour period. This discharge rate is based on the City's requirements for basin evacuation through percolation facilities, though the City has no formal adopted standard for the maximum time to empty a basin via pumped discharge. Infiltration trenches or other percolation facilities may also be utilized as an alternative to pumped discharge to MID facilities.

Stormwater Discharge into MID-owned facilities will be subject to the terms of a Discharge Agreement between the City of Riverbank and MID. This agreement will describe such provisions as discharge flowrate limitations, maintenance obligations, fees, and other provisions.

The agreement will likely also allow the MID to temporarily restrict stormwater discharges to the canals, which may result in longer storage periods for volume within the basins. As mentioned previously, the City has no adopted standard for the maximum time to empty a basin via pump station. Nevertheless, basins will be designed to store the volume from a 50-year design storm at an elevation below the lowest tributary inlet. This requirement should also result in sufficient storage volume to protect building pads from inundation due to higher-runoff storm events, such as the 100-year design storm. Given these considerations, sufficient flood protection will still be provided by the basins in the event that pumped discharge into the MID is temporarily restricted.

The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed stormwater infrastructure, including basins, pump stations, inlets, pipelines, and appurtenant structures upon installation of the improvements.

Storm Drainage System – Alternative

As an alternative, the project may utilize the 63 acre +/- reserve area as shallow flood storage to contain and infiltrate stormwater runoff from the project. Under this alternative, stormwater from the development would enter the proposed West Basin via concrete inlet structure. The West Basin would be sized to accommodate the "Water Quality Volume" from the tributary watershed. This volume is defined as the runoff resulting from an 85th percentile 24-hour storm event, which is equivalent to a rainfall depth of approximately 0.50 in. This criterion is utilized throughout the State in the design of stormwater quality infrastructure.

Runoff volume that exceeds the capacity of the West Basin would overflow into the adjacent Reserve Area, which would function as an area of shallow flood storage. This approximate 63-acre area would store volumes at relatively shallow depths, and would allow the stored volume to infiltrate into the subsurface soils. A series of relatively short containment berms would be constructed through the Reserve Area to distribute the flood storage more equally across the entire area, as well as to limit the depth of the storage.

The depth of flood storage within the Reserve Area would be limited to approximately 12 to 18 inches. The intent in limiting flood storage depth is to allow for the continued use of the orchard within the Reserve Area. Using the entire Reserve Area as flood storage area as described herein would provide sufficient capacity to accommodate approximately 440 acres of tributary area. This would be equivalent to the combined areas from the West Basin and North Basin watersheds, which may eliminate the need for a separate North Basin. Other equivalent combinations of watersheds and reduction of basin infrastructure may be utilized, as well. Using the Reserve Area for flood storage in this manner may also allow for the elimination or reduction of the proposed West Basin pump station discharge to the MID Main Canal.

Refer to Figures 2.0-17 for exhibits showing the proposed Alternative Preliminary Storm Drain Plan and Preliminary Reserve Area Shallow Flooding Plan.

Electric, Gas, and Telecommunication Services

Utilities for the Plan Area including electricity, natural gas, and telecommunication services are not typically provided by the City and, therefore, rely on outside service providers. The anticipated dry utility providers who will service the Plan Area are listed below:

- Electricity service is available from two service providers for the Plan Area. Pacific Gas & Electric (PG&E) and Modesto Irrigation District (MID) show the Plan Area within their service boundaries. New power transmission lines will be installed underground, which conforms to the City Development Standards. Each tenant and residential unit will be individually metered for their electricity use.

- Natural Gas will be provided by PG&E. The Plan Area falls within the service boundary for PG&E. New transmission lines will be installed underground for the Project, and per City requirements, individual connections for retail tenants and residential units will be established for usage and billing purposes.

- Telecommunications services include phone service, fiber optics, and cable television. AT&T Residential Division is expected to be the primary phone and fiber optic provider for the Plan Area. Charter Communications will be the primary cable television provider. AT&T Business Division will be the primary provider for the non-residential (i.e., Mixed Use). As with the other utilities, all new transmission lines will be constructed underground to meet the requirements of the City.

Solid Waste

The City of Riverbank contracts with Gilton Solid Waste Management to provide municipal refuse, collection, and disposal services, including garbage, yard waste, and recycling. All of the solid waste is hauled to the Gilton Resource Recovery facility, located at 800 S McClure Rd, Modesto, CA 95357, approximately 8 miles southeast of the Plan Area. At the transfer station, the solid waste is checked for potentially hazardous waste material, and transferred onto larger trucks for ultimate disposal at a sanitary landfill or processed elsewhere.

Solid waste hauled by Gilton Solid Waste from Riverbank is deposited in two landfills and a waste-to-energy facility. These are the Forward, Inc. landfill in San Joaquin County, the Fink Road Landfill in Stanislaus County (administered by the County Public Works Department), and the Covanta Waste-to-Energy Facility in Stanislaus County (administered by County Department of Environmental Resources). The Covanta Facility was built with an official manufacturer's capacity of 243,000 tons, and the service area is contractually required to send at least this amount to the facility per year. Recently the facility has handled 250,000 to 260,000 tons per year.

Stanislaus County Division of Environmental Resources provides household hazardous waste collection and disposal for the City of Riverbank. Household hazardous waste can be taken to the Delta Household Hazardous Waste Collection Facility, located at County Center IV, 1710 Morgan Road, in Modesto, or dropped off at one of several community collection events that take place in various locations in the City and throughout Stanislaus County.

The Specific Plan anticipates that the solid waste collection, disposal, and processing services in place is Riverbank can accommodate the increased waste associated with buildout of the Plan Area.

PUBLIC SERVICES – POLICE AND FIRE

Law Enforcement

Law enforcement will be provided to the Plan Area by the Stanislaus County Sheriff's office who provides contract police services to the City of Riverbank Police Department. The Stanislaus County Sheriff Department is located at 6727 Third Street, approximately 2 miles east of the Plan Area.

Fire Protection

Fire protection services are provided by the Stanislaus Consolidated Fire Protection District. This department is the first responder to all medical emergency calls and 911 calls where fire services are requested.

Currently, the fire department operates out of Station #36, which is located in downtown Riverbank on 3318 Topeka Street, approximately 2 miles east of the Plan Area. This station is staffed 24 hours per day. The Fire District has interest in a site on Morrill Road about one-half mile south of the Plan Area for a future fire station.

The actual need for additional staff will be evaluated by the service providers as development is occurs, and will be reevaluated each year by the City of Riverbank in their budgeting process.

PUBLIC SERVICES – EDUCATION FACILITIES

Riverbank is served by four school districts: Riverbank Unified School District, Sylvan Union School District, Modesto City Schools, and Stanislaus Union School District. The Stanislaus Union School District only serves the far west end of River Walk west of Coffee Road. The Sylvan Union School District and Stanislaus Union School District provide kindergarten through eighth grade instruction. Students from Riverbank who attend elementary and middle school in these districts attend the Modesto City School District for high school. Riverbank Unified School District provides kindergarten through 12th grade instruction.

The Plan Area would be expected to be served by the Sylvan Union School District for kindergarten through eighth grade instruction. High school students within the Plan Area would be expected to be served by the Modesto City School District, however future attendance maps could differ. All school sites are located outside of the Plan Area.

It is noted that the proposed Project is anticipated to have a relatively low student generation given that a large portion of River Walk is projected as an active adult (55+) community that will generate few, if any, school-aged children or young adults.

PUBLIC FACILITIES – PARKS AND RECREATION

The Specific Plan provides an extensive network of parks, greenway, and open space for recreational opportunities to serve the community. It is also noted that several stormwater basins have been incorporated into the Specific Plan for storm drainage function, but are also intended to provide a dual use park opportunity.

River Walk Trail

The Specific Plan provides a 4.8-mile trail loop that generally surrounds the Plan Area, known as the River Walk Trail. The trail follows the Stanislaus River and other topographical features, looping around the active adult portion of the Plan Area.

The River Walk Trail is designed for dual use by NEV's, pedestrians and off-road cyclists. The trail design consists of a 10-foot-wide surface constructed of native materials such as compacted, decomposed granite in an alignment cleared of brush and vegetation. It is possible that pavement or concrete could be used to create an all-weather surface.

Rest stops will be located along the Trail. A trailhead is planned at the center of the Plan Area, northeast of the clubhouse and Community Park. Additional access points to the Trail will be located in residential neighborhoods and at locations adjacent to open space areas.

River Walk Park

The largest individual park in the Plan Area is the River Walk Park, located on the east boundary of the Plan Area, adjacent to the River Walk Trail and the Stanislaus River. The River Walk Park consists of passive nature preserves which foster appreciation and understanding of the natural riparian habitat provided by the Stanislaus River. Examples of passive recreation facilities may include walking trails, picnic tables, bench areas, outdoor exercise stations, wildlife viewpoints, and river access points for non-motorized travel (i.e., swimming, kayaking, or canoeing). Trail wayfinding signs and interpretive nature signs would be located near viewpoints and rest areas.

Security lighting is planned in limited areas consistent with the lighting standards in the River Walk Development Standards. The River Walk Trail will be publicly owned and maintained through a Community Facilities District (CFD) 2016-01 or similar funding mechanism.

Community Park

The Specific Plan provides a Community Park adjacent to the community center, clubhouse and commercial uses, with connection to River Walk Trail and River Walk Park.

The Community Park is anticipated to include basic lighting, but not field lighting. This park is not anticipated to have a sound system, but the facility will be available for small scale park concerts and other activities that may require imported sounded systems.

The Community Park will incorporate water conservation measures including turf limitations, low water use plantings and smart irrigation systems or centrally-controlled irrigation systems.

Clubhouse

A clubhouse is planned to provide recreation and social activities for active adult residents and visitors on an approximate 8-acre parcel within the community core area.

The clubhouse main building will be approximately 20,000 square feet and will include active and passive recreational facilities such as meeting and instructional areas, fitness equipment, craft facilities, and library, all intended to provide social gathering areas for residents.

Outdoor recreational facilities at the clubhouse will include tennis courts, bocce courts, pickle ball courts, lawn games, and swimming pool with spa area.

The clubhouse is envisioned to be attached to the mixed-use commercial area inside the community core, which includes approximately 5 acres for an age-restricted active adult multi-story building with neighborhood retail uses on the first story and high-density housing or office on the second story. The first story uses would include small restaurants (i.e., coffee shop, deli, etc.) and small office services. The first story is anticipated to have up to 110,000 square feet of building space. The second story is anticipated to have up to 110,000 square feet of building space, which could be up to 100 high density units, or commercial/retail serving uses, or a combination of both. The provision of these commercial opportunities is complimentary to the social gathering opportunities at the Clubhouse.

Neighborhood Parks

In addition to the larger parks described above, the Specific Plan provides a variety of neighborhood parks and "pocket parks" within the individual villages. These smaller parks are intended to provide visual interest and a gathering place for active and passive recreation for the residents within their neighborhood village.

No field lighting or sound systems are proposed for the neighborhood parks. The Neighborhood parks will incorporate water conservation measures including turf limitations, low water use plantings and smart irrigation systems or centrally-controlled irrigation systems.

Dual-use Parks/Basins

The Specific Plan provides several stormwater basins that have been incorporated into the Specific Plan for storm drainage function, but are also intended to provide a dual use park opportunity.

2.5 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed Project.

CITY OF RIVERBANK

The City of Riverbank will be the Lead Agency for the proposed Project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050. Actions that would be required from the City include, but are not limited to, the following:

- Certification of the EIR;
- Adoption of the Mitigation Monitoring and Reporting Program;
- Approval of the City of Riverbank General Plan Amendments;
- Approval of the City of Riverbank Pre-zoning;
- Approval of SOI Amendment;
- Approval of a Municipal Services Review Update/Amendment;
- Approval of Annexation of the Specific Plan Area and APNs 074-005-012, 074-005-013, 074-005-010, and 074-005-011 into the City of Riverbank;
- Approval of Specific Plan;
- Approval of the Neighborhood Electric Vehicle Plan, and subsequent EV Ordinance;
- Approval of Development Agreement;
- Approval of Vesting Tentative Maps;
- Annexation into city-wide Community Facilities District 2016-01 for impacts to roads, stormwater facilities, waste water facilities, etc.;
- Approval of future Subdivision Improvement Agreements (prior to Final Map);
- Approval of future Final Maps;
- Approval of future Improvement Plans;
- Approval of future Grading Plans;

- Approval of future Site Plan and Design Review in accordance with the Implementation Guidelines;
- City review, approval, and construction and utility plans;
- Approval of future Building Permits;
- Approval of Williamson Act contract cancellation;
- Native American Tribal Consultation;
- Approval of future Conditional Use Permits and Variances.

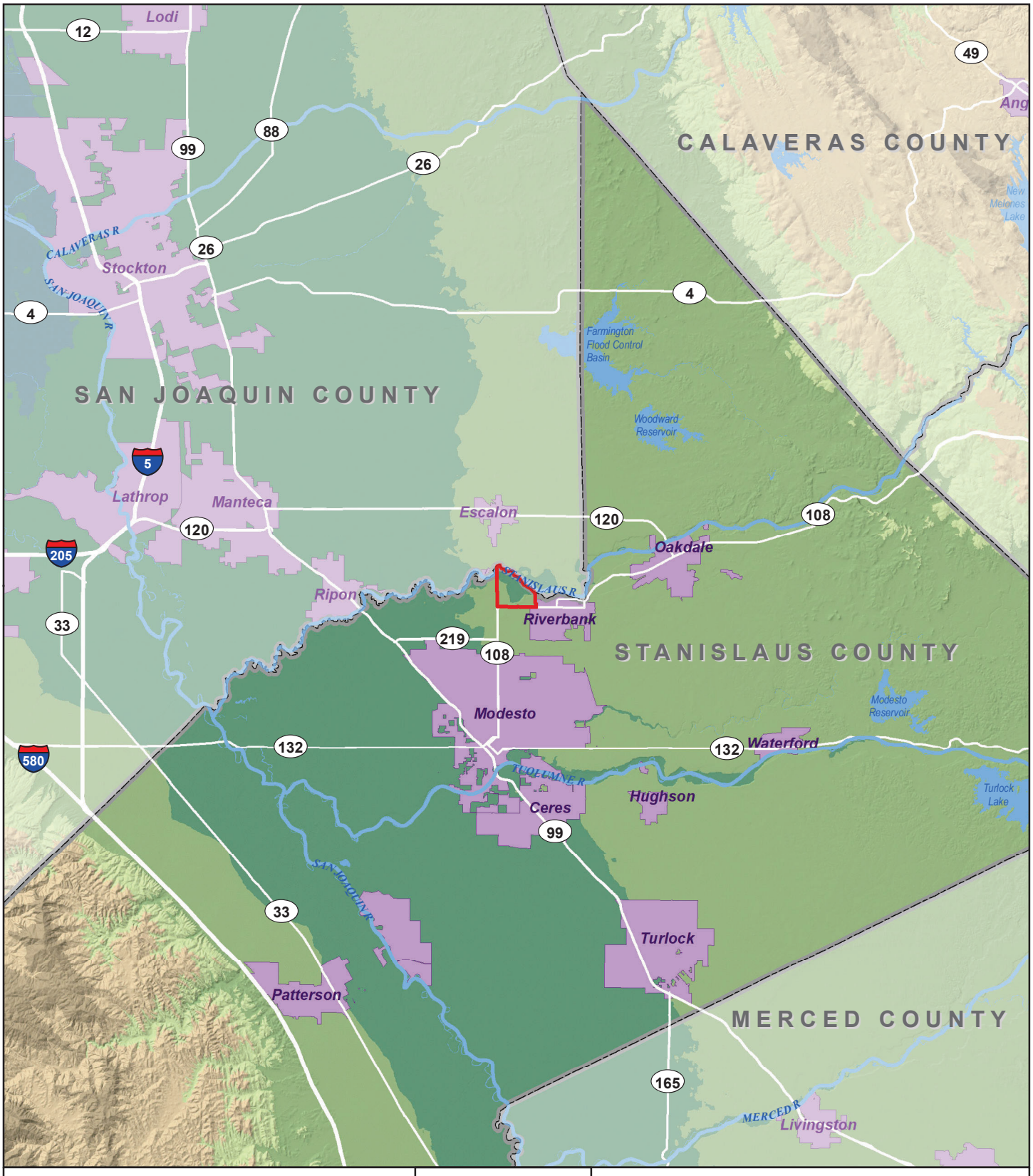
OTHER GOVERNMENTAL AGENCY APPROVALS

The following agencies may be required to issue permits or approve certain aspects of the proposed Project. Other governmental agencies that may require approvals in connection with the Project include, but are not limited to, the following:

- Stanislaus Local Agency Formation Commission (LAFCO) – Amendment of the Sphere of Influence of the City of Riverbank to cover the entire Project Area, Municipal Services Review Update/Amendment, and Annexation of the Specific Plan area to the City of Riverbank;
- Modesto Irrigation District (MID): Approval of roadway and utility pipeline crossings in at least two locations along the MID Main canal within the Specific Plan Area. Approval of a widening of Patterson Road at two existing crossings of the MID Main Canal. Approval of a roadway and utility pipeline crossing at the Spenker Drain. Approval of a stormwater discharge agreement to authorize discharge of stormwater into MID facilities.
- California Department of Fish and Wildlife (CDFW) Issuance of 1600 Streambed Alteration Agreement;
- California Department of Transportation (Caltrans) safe crossing and approval of improvements on SR 108;
- Central Valley Regional Water Quality Control Board (CVRWQCB) - Construction Stormwater General Permit including review of Storm Water Pollution Prevention Plan (SWPPP) prior to approval and construction activities pursuant to the Clean Water Act and RWQCB-401 certification;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) - Approval of construction-related air quality permits.
- United States Postal System – Approval of address name change from Modesto to Riverbank.

Finally, the Project may also require a Clean Water Act Section 404 permit from the United States Army Corps of Engineers (USACE) and/or an Endangered Species Act Section 7 permit from the U.S. Fish and Wildlife Service (USFWS). As federal agencies not subject to California law, the USACE and USFWS, strictly speaking, is neither a responsible agency nor a trustee agency. Instead, as a federal agency, they are each subject to the National Environmental Policy Act (NEPA) rather than CEQA.

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Legend

- Project Area
- Incorporated Area
- County Boundary

Sources: California State Geoportal Map date: Novmeber 13, 2020.

N

0 2½ 5

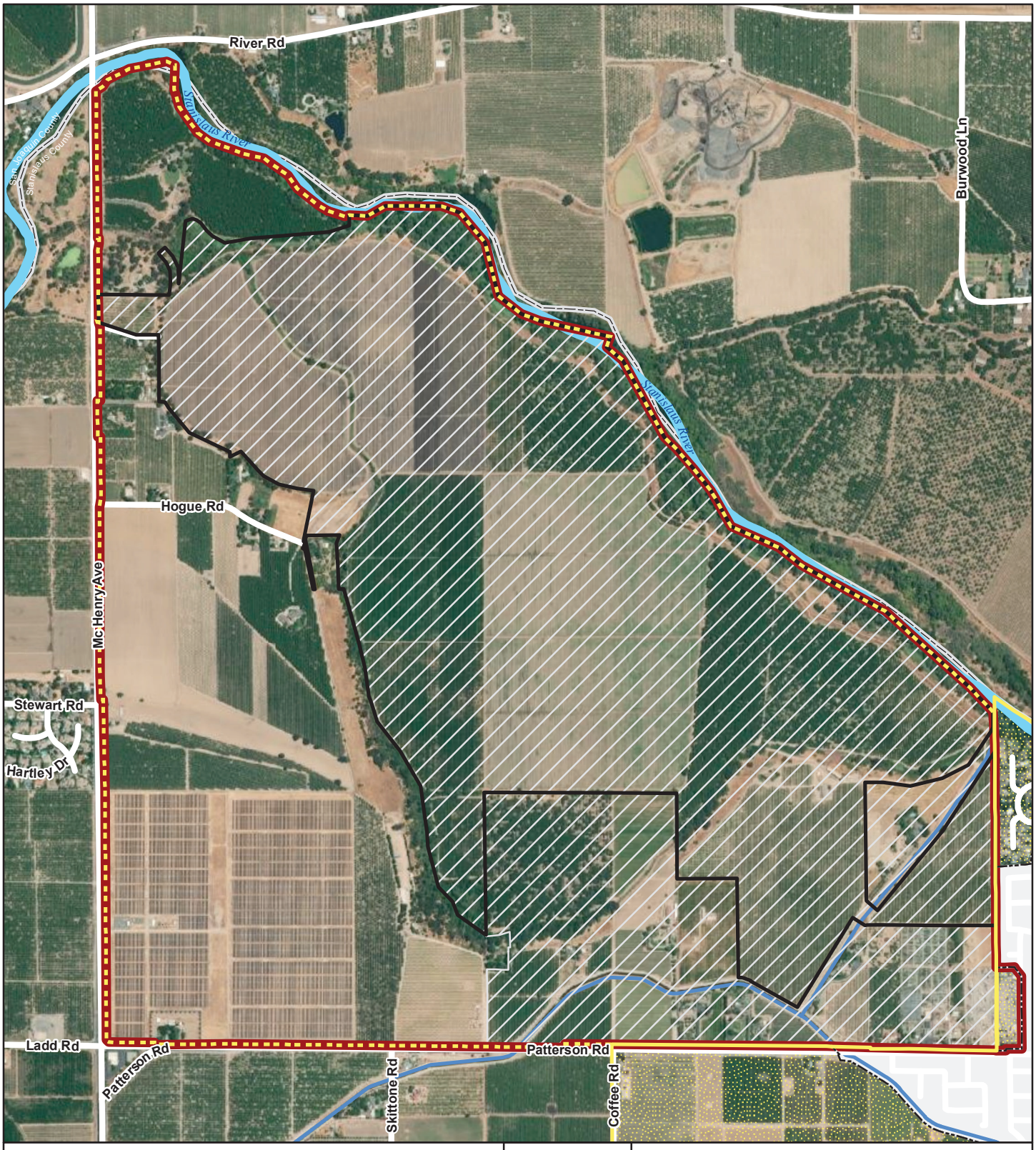
Miles

RIVER WALK SPECIFIC PLAN

Figure 2.0-1. Regional Location Map

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Legend

- City of Riverbank
- Riverbank Sphere of Influence (SOI)
- Proposed SOI Expansion
- County Boundary
- Project Area
- Specific Plan Area
- Berghill Boundary

N

0 500 1,000

Feet

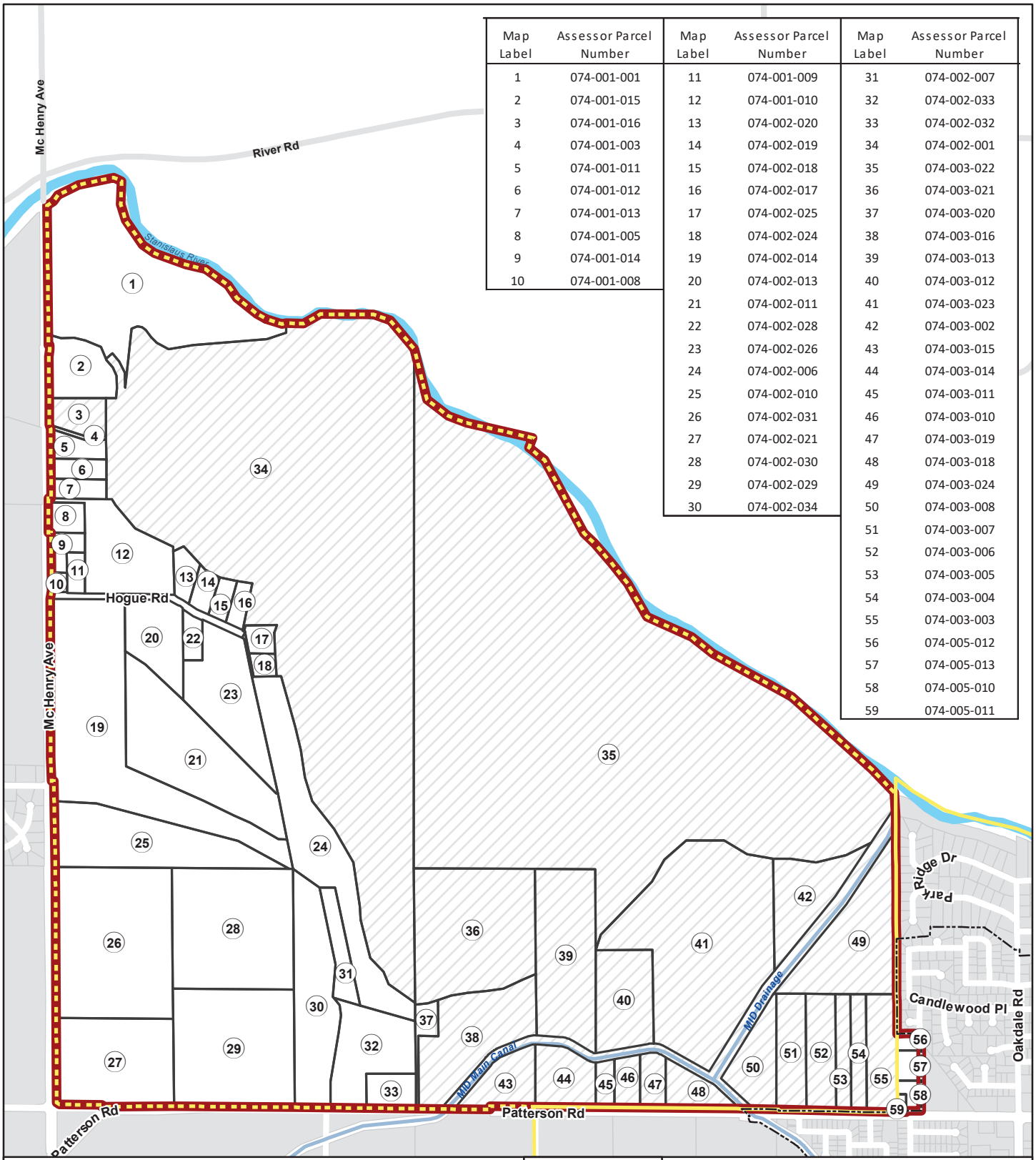
Sources: Stanislaus County GIS; San Joaquin County GIS; ArcGIS Online World Imagery Map Service 6/18/2021. Map date: June 7, 2022.

RIVERWALK SPECIFIC PLAN

Figure 2.0-2.
Project Area Boundaries

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Map Label	Assessor Parcel Number
1	074-001-001
2	074-001-015
3	074-001-016
4	074-001-003
5	074-001-011
6	074-001-012
7	074-001-013
8	074-001-005
9	074-001-014
10	074-001-008
11	074-001-009
12	074-001-010
13	074-002-020
14	074-002-019
15	074-002-018
16	074-002-017
17	074-002-025
18	074-002-024
19	074-002-014
20	074-002-013
21	074-002-011
22	074-002-028
23	074-002-026
24	074-002-006
25	074-002-010
26	074-002-031
27	074-002-021
28	074-002-030
29	074-002-029
30	074-002-034
31	074-002-007
32	074-002-033
33	074-002-032
34	074-002-001
35	074-003-022
36	074-003-021
37	074-003-020
38	074-003-016
39	074-003-013
40	074-003-012
41	074-003-023
42	074-003-002
43	074-003-015
44	074-003-014
45	074-003-011
46	074-003-010
47	074-003-019
48	074-003-018
49	074-003-024
50	074-003-008
51	074-003-007
52	074-003-006
53	074-003-005
54	074-003-004
55	074-003-003
56	074-005-012
57	074-005-013
58	074-005-010
59	074-005-011

Legend

- Project Area
- Specific Plan Area
- City of Riverbank
- Riverbank Sphere of Influence (SOI)
- Proposed SOI Expansion
- (X) Parcels within the Project Area
- Other Stanislaus County Parcels

0 500 1,000
Feet

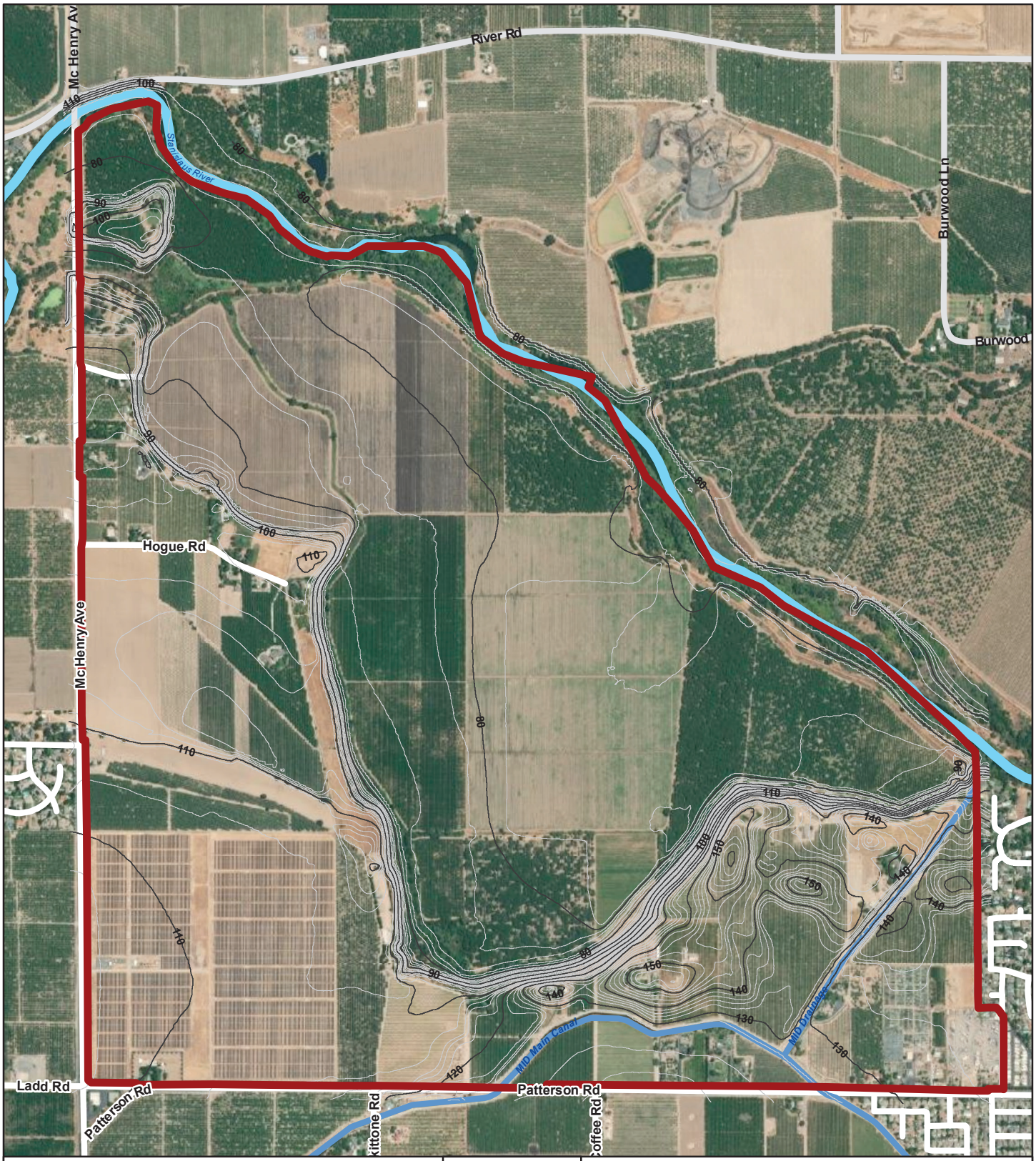
Sources: Stanislaus County GIS. Map date: June 7, 2022.

RIVERWALK SPECIFIC PLAN

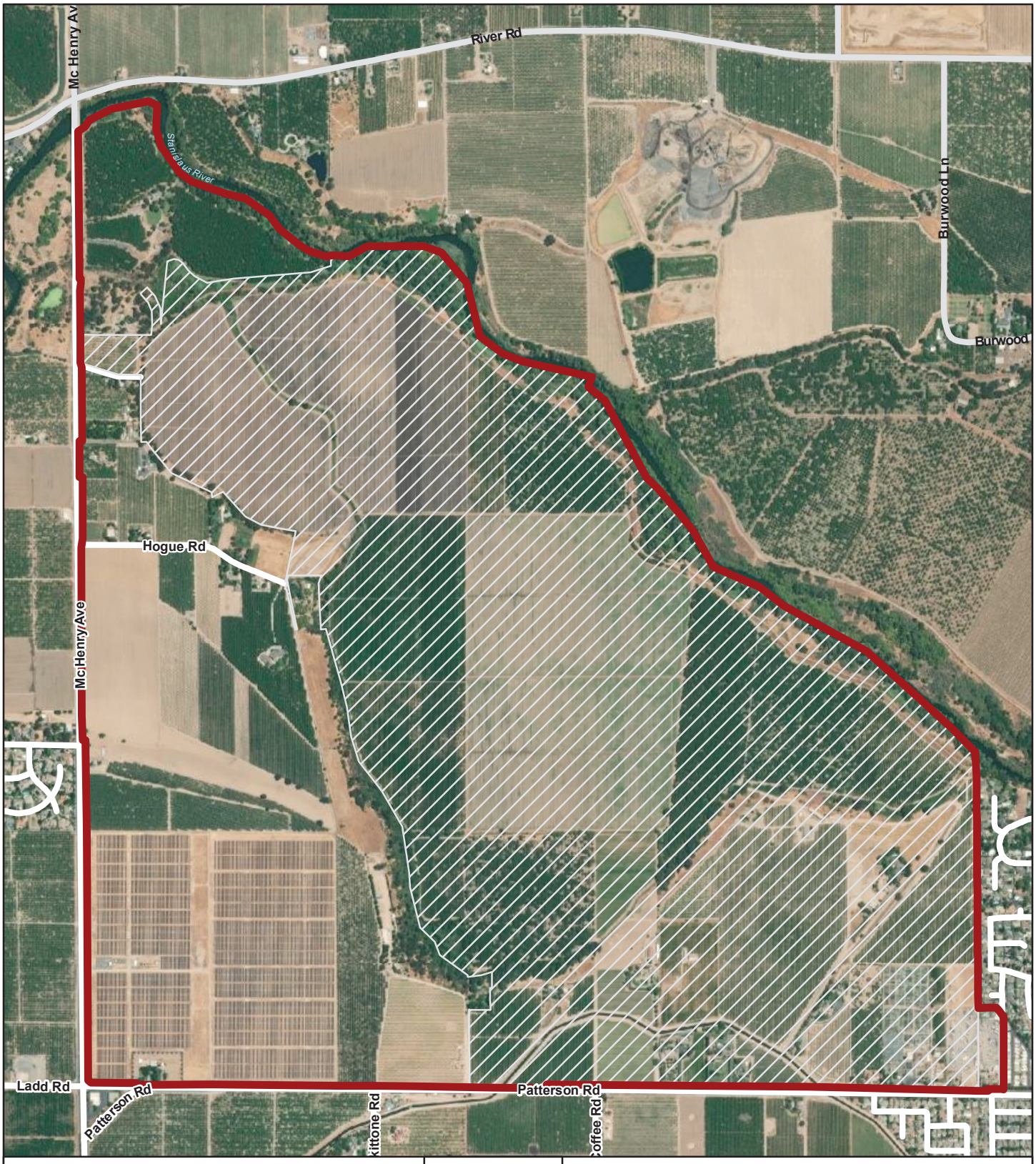
Figure 2.0-3.
Assessor Parcel Map

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River Rd
Mc Henry Ave
Stanislaus River
Burwood Ln
Burwood
Hogue Rd
McHenry Ave
Ladd Rd
Patterson Rd
Patterson Rd
Kittone Rd
Coffee Rd
MID Main Canal
MID Drainage
Legend
Project Area
2-ft Elevation Contour
10-ft Elevation Contour
0
500
1,000
Feet
Sources: Stanislaus County GIS; ArcGIS Online World Imagery Map Service 6/18/2021. Map date: June 7, 2022.
RIVERWALK SPECIFIC PLAN
Figure 2.0-4. Topographic Map
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Legend

- Project Area
- Specific Plan Area

0 500 1,000

Feet

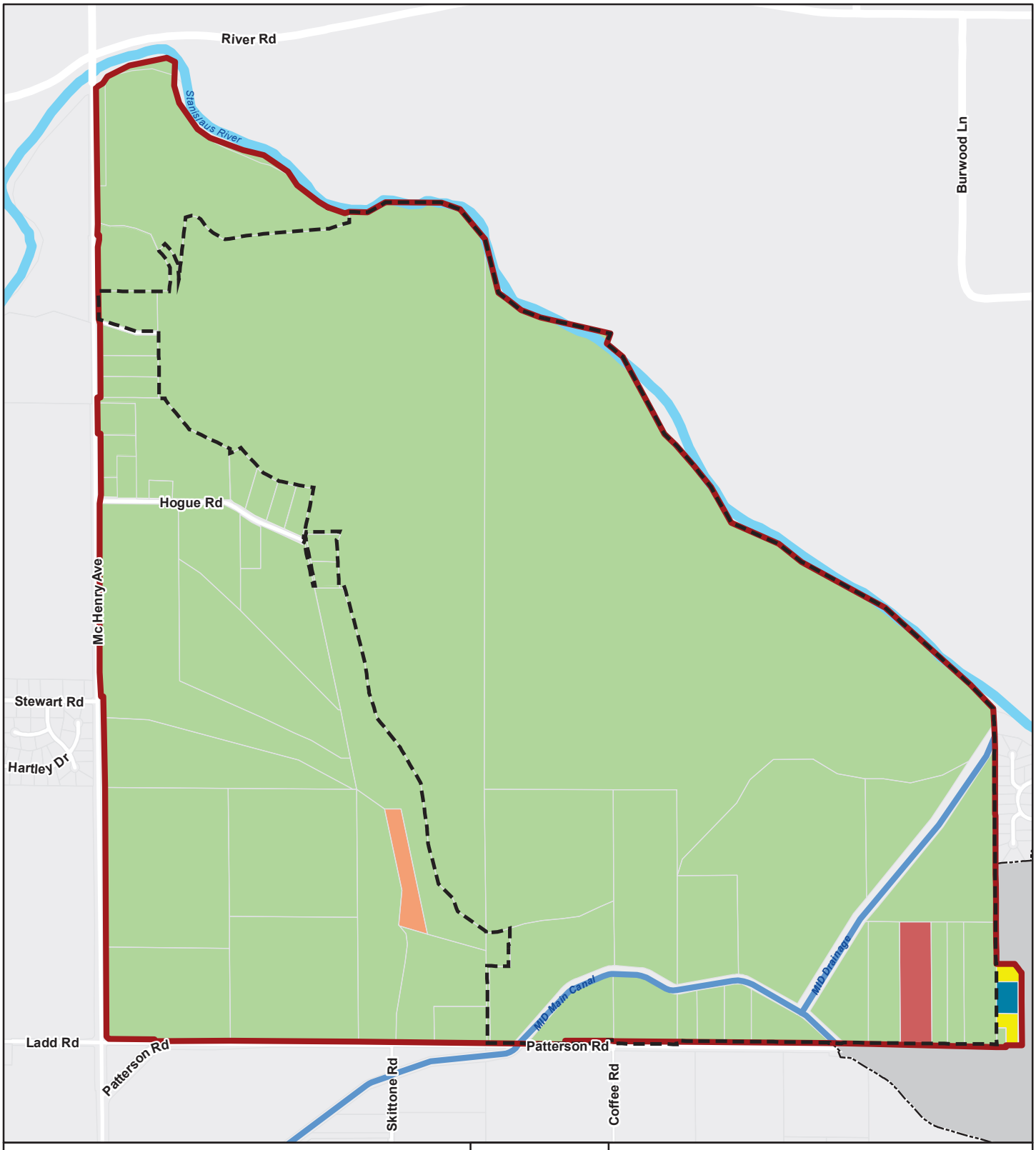
Sources: Stanislaus County GIS; ArcGIS Online World Imagery Map Service 6/18/2021. Map date: June 7, 2022.

RIVERWALK SPECIFIC PLAN

Figure 2.0-5. Aerial View of Project

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Legend

- Project Area
- Specific Plan Area
- Assessor Parcel Boundary
- City of Riverbank
- Residential Single Family
- Agricultural
- Commercial
- Office
- Miscellaneous

N

0 500 1,000

Feet

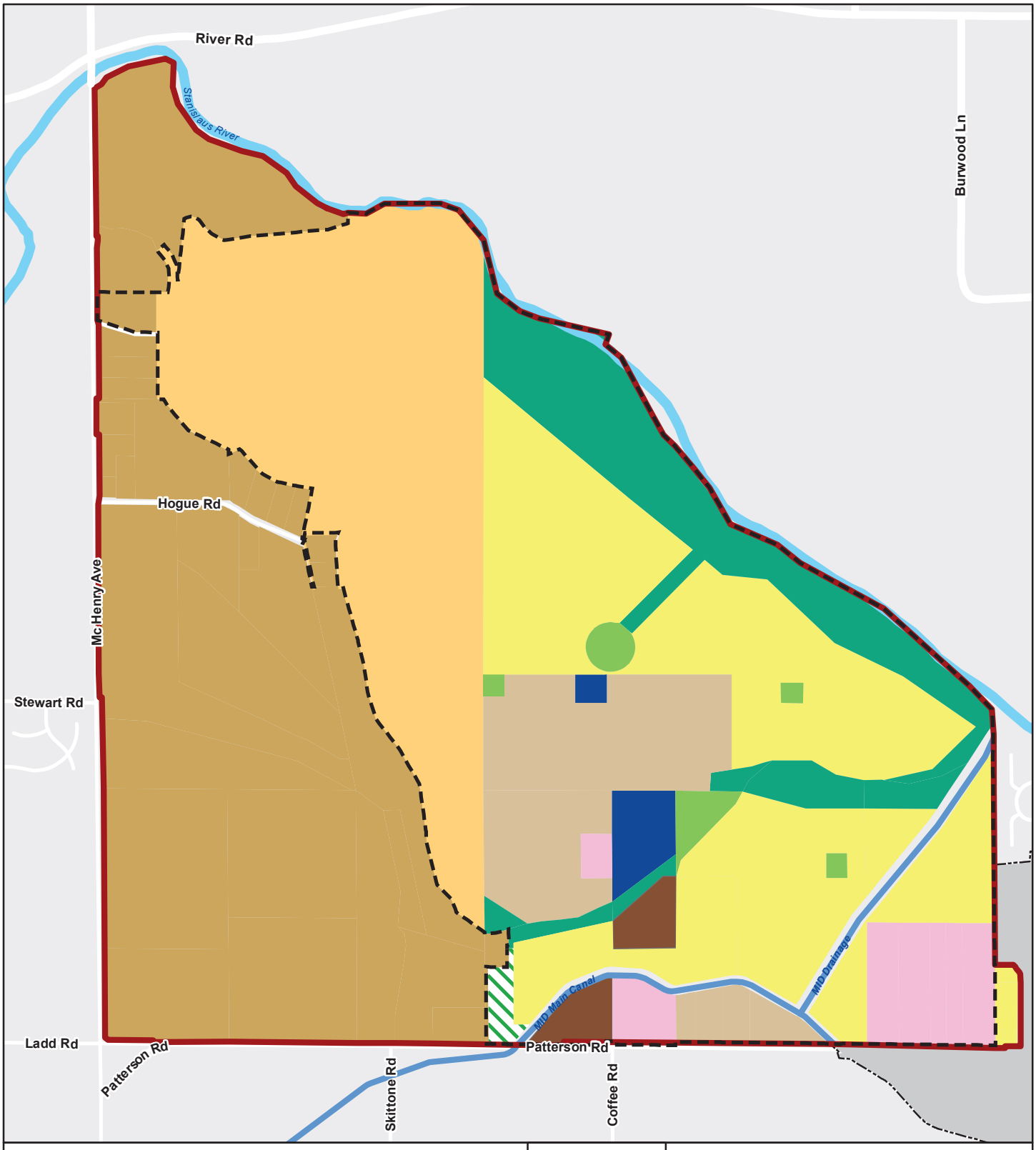
Sources: Stanislaus County GIS; ParcelQuest2/26/2020. Map date: June 28, 2023.

RIVERWALK SPECIFIC PLAN

Figure 2.0-6. Assessed Land Uses

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Legend

- Project Area
- Specific Plan
- City of Riverbank
- Lower Density Residential
- Medium Density Residential
- Higher Density Residential
- Mixed Use
- Parks
- Civic
- Agricultural Resource Conservation
- Buffer/Greenway/Open Space
- Multi-Use Recreational/Resource
- Reserve

0 500 1,000
Feet

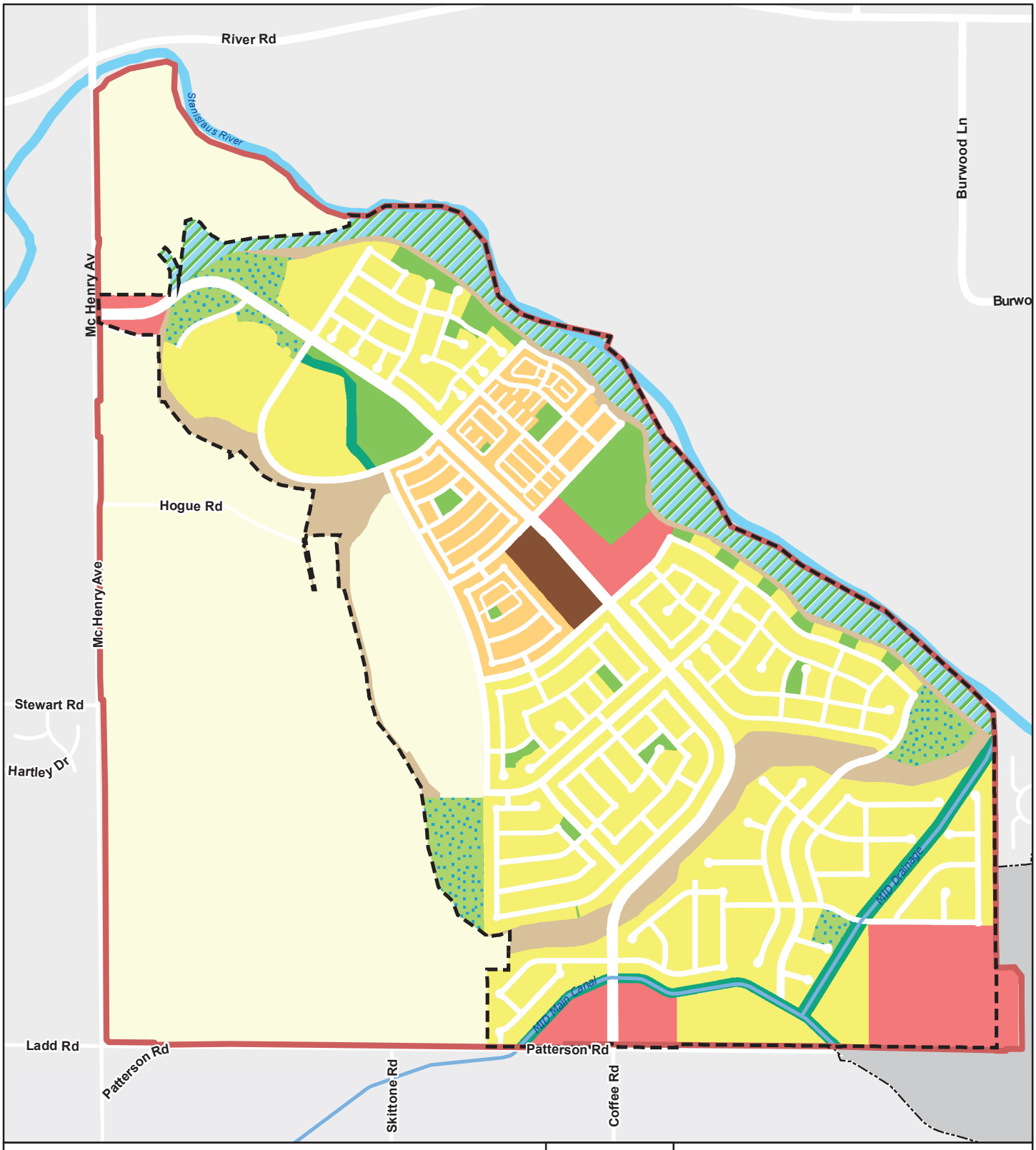
Sources: Stanislaus County GIS; City of Riverbank General Plan Map, August 2015. Map date: June 28, 2023.

RIVERWALK SPECIFIC PLAN

Figure 2.0-7. City of Riverbank General Plan Designations

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Legend

- Project Area
- City of Riverbank
- Specific Plan Area
- Reserve
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Mixed Use
- Park
- Dual Use Park/Ponding Basin
- Buffer/Greenway/Openspace - Bluff
- Buffer/Greenway/Openspace - Canal
- Buffer/Greenway/Openspace - River Park

Sources: Stanislaus County GIS. Map date: June 28, 2023.

N

0 500 1,000

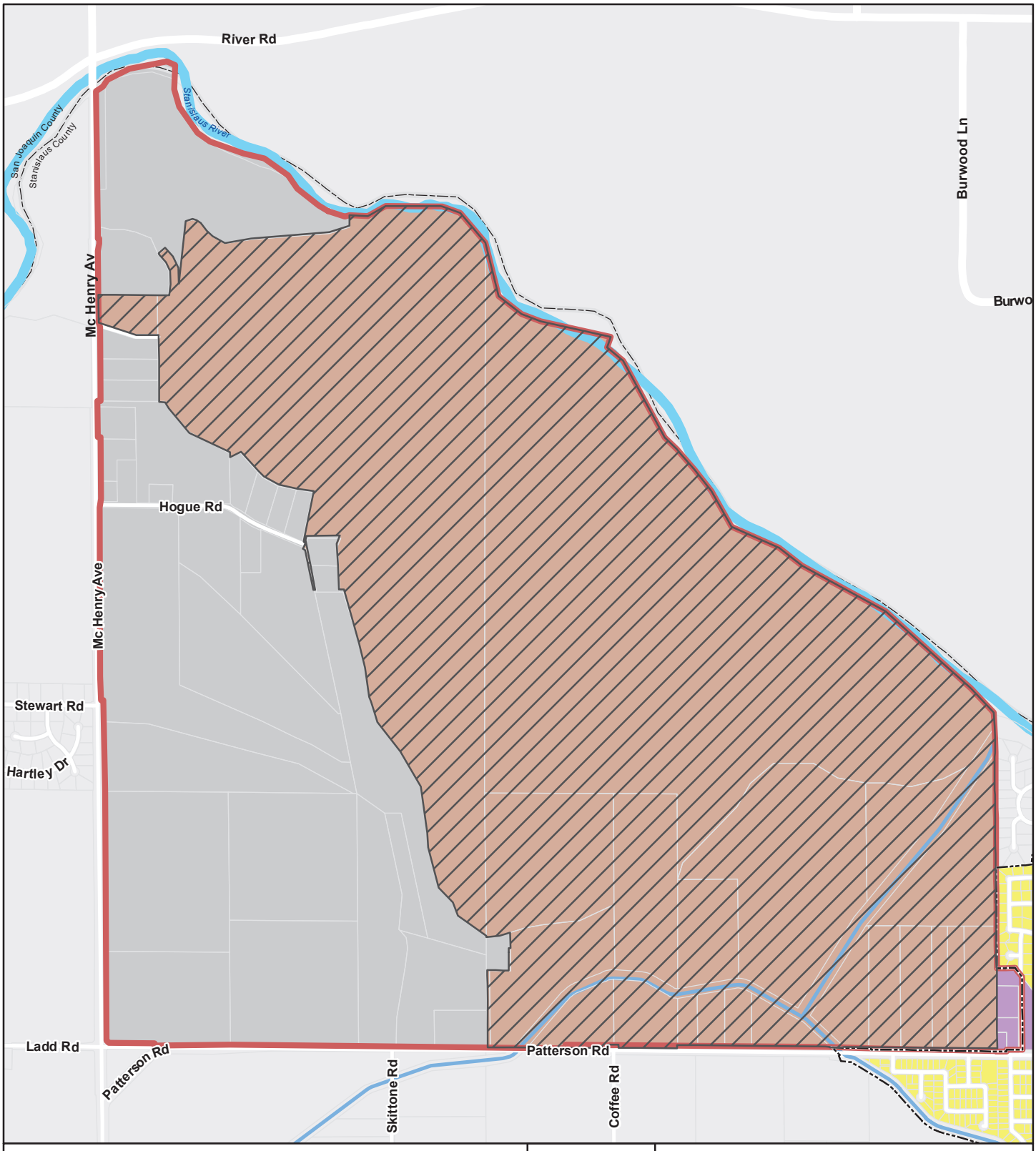
Feet

RIVERWALK SPECIFIC PLAN

Figure 2.0-8.
Proposed General Plan Map

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Legend

- Project Area
- Specific Plan Area
- City of Riverbank

Proposed Zoning Designation

- Mixed Use (CX-1)
- Single Family Residential (R-1)
- Specific Plan Area
- Unassigned

N

0 500 1,000

Feet

Sources: Stanislaus County GIS. Map date: June 15, 2022.

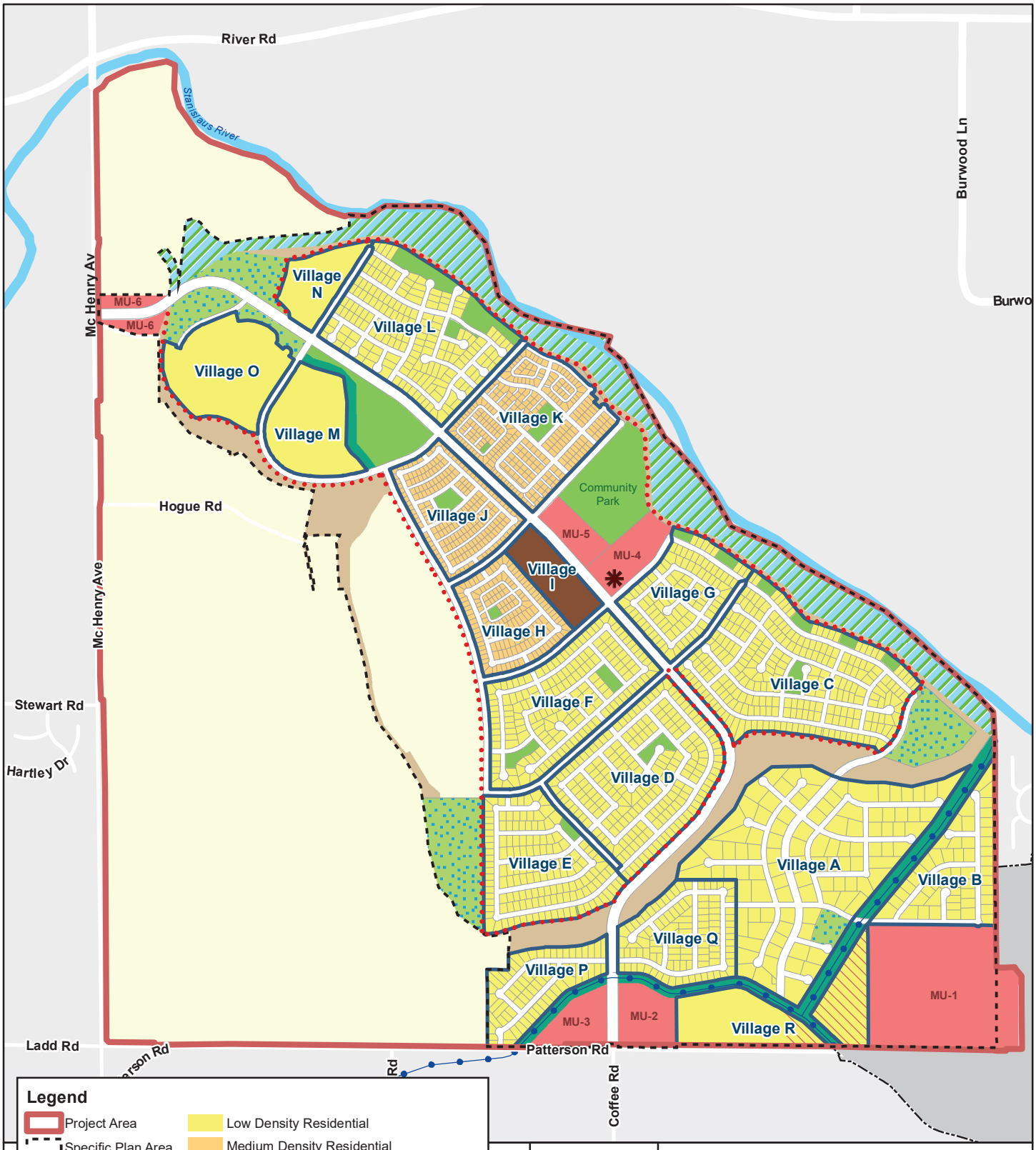
RIVERWALK SPECIFIC PLAN

Figure 2.0-9. Proposed Zoning

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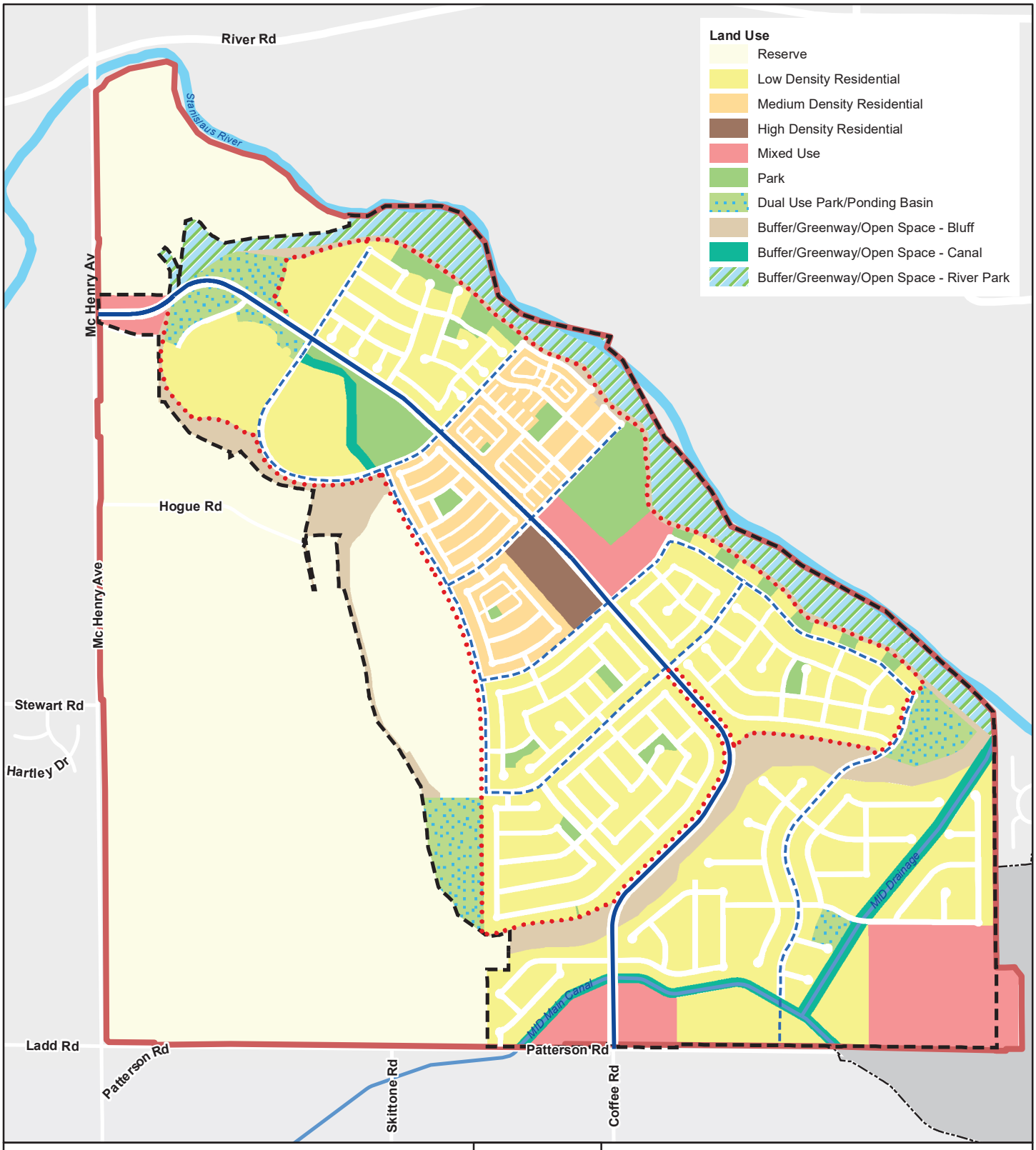
Sources: Stanislaus County GIS. Map date: June 28, 2023.

RIVERWALK SPECIFIC PLAN

Figure 2.0-10.
Proposed Specific Plan and Conceptual Land Use Diagram

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Legend

- Project Area
- Specific Plan Area
- City of Riverbank
- Riverwalk Trail
- Arterial Street
- Collector Street

N

0 500 1,000

Feet

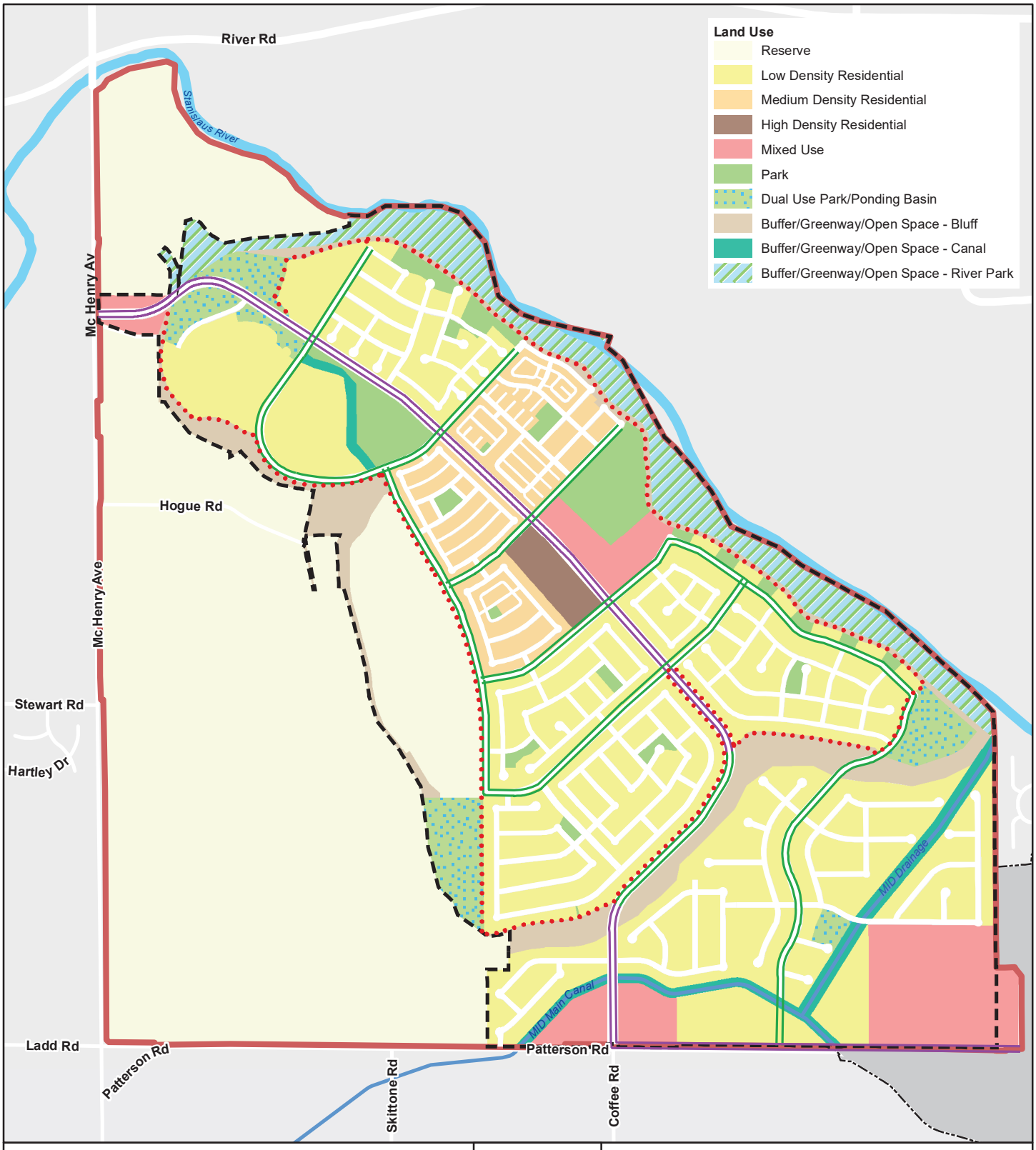
Sources: Stanislaus County GIS. Map date: June 28, 2023.

RIVERWALK SPECIFIC PLAN

Figure 2.0-11. Circulation Network

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Legend

- Project Area
- Specific Plan Area
- City of Riverbank
- Riverwalk Trail
- Class 1 Bike Lane
- Class 2 Bike Lane

0 500 1,000
Feet

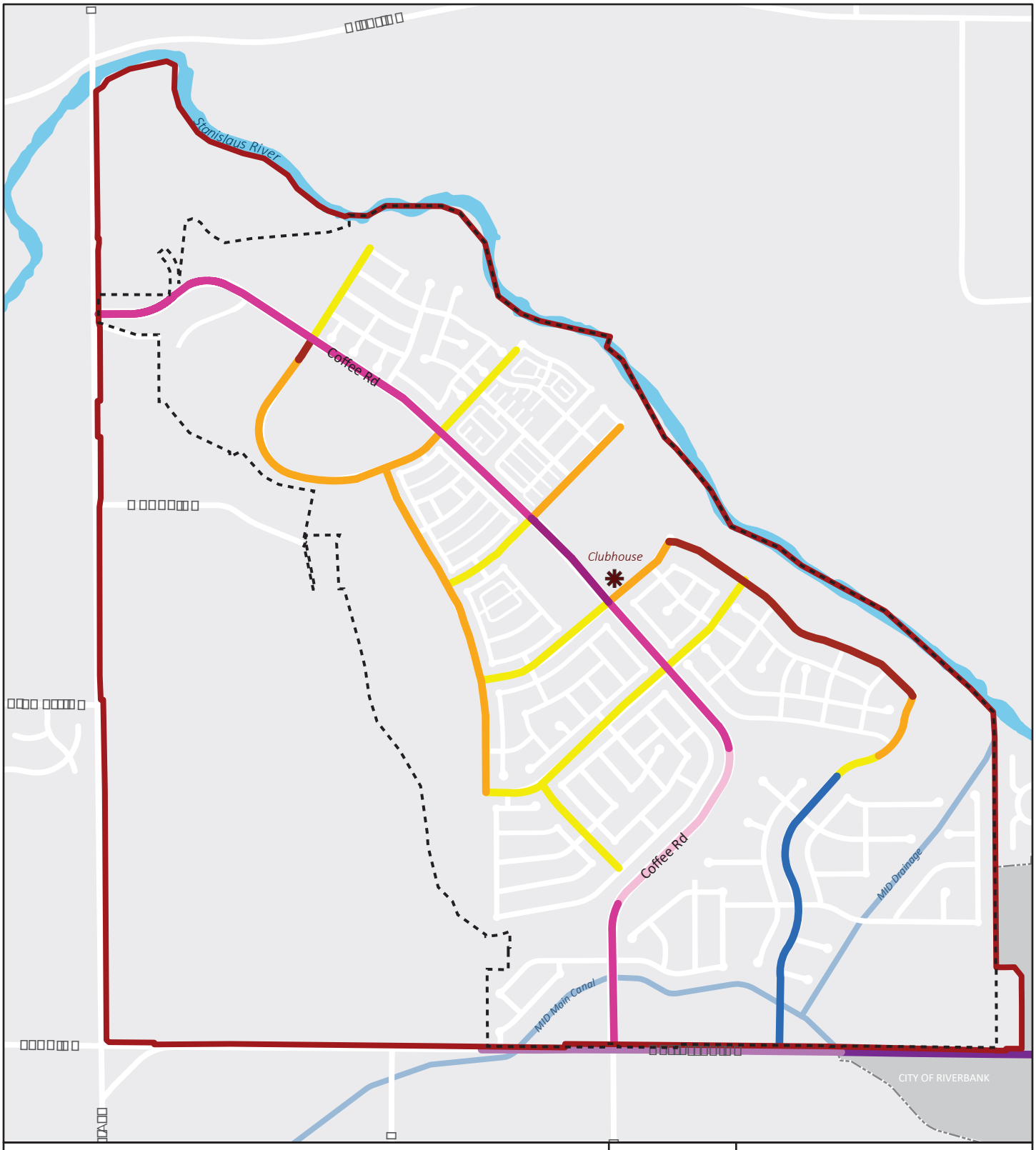
Sources: Stanislaus County GIS. Map date: June 28, 2023.

RIVERWALK SPECIFIC PLAN

Figure 2.0-12.
Bicycle and Pedestrian Network

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Legend

- Project Area
- Specific Plan Area

Coffee Road

- 110' Major Collector
- 92' Major Collector Modification (Village Center)
- 82' Major Collector Modification (Downslope)

Patterson Road

- 100-110' Arterial (West of Canal)
- 90-110' Arterial (East of Canal)

Other Collector Roads

- 82' Major Collector
- 70' Minor Collector (No Parking)
- 70' Minor Collector (Parking One Side)
- 70' Minor Collector (Parking Both Sides)

N

0 500 1,000

Feet

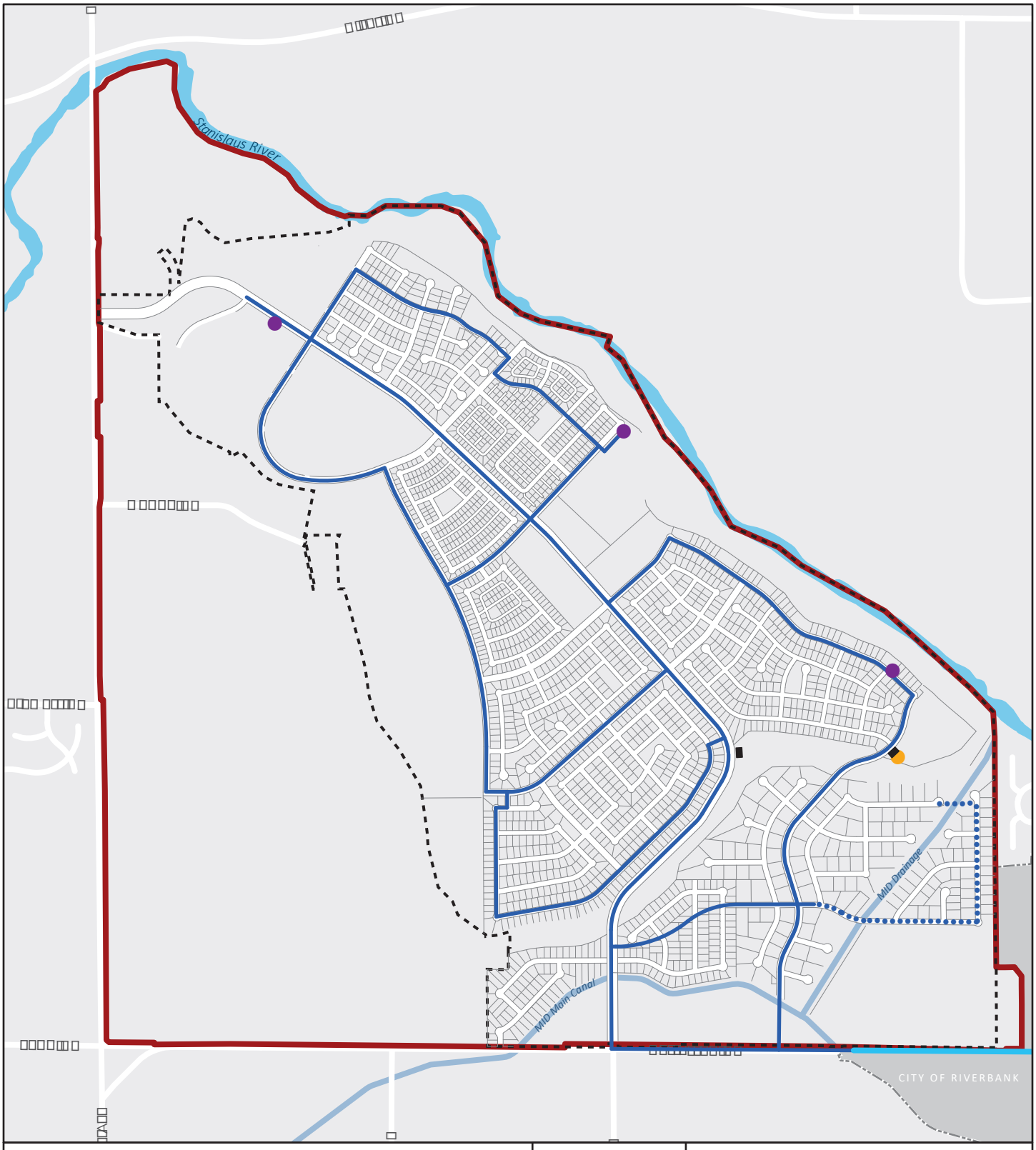
Sources: Stanislaus County GIS. Map date: January 23, 2024.

RIVERWALK SPECIFIC PLAN

Figure 2.0-13. Roadway Sections

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Legend

- Project Area
- Specific Plan Area
- Lot Line
- Proposed Master Plan 12-inch Water Main
- Proposed Neighborhood 8-inch Water Main
- Existing Water Main
- 2M Gallon Water Tank
- Well
- Pressure Regulating Station

N

0 500 1,000

Feet

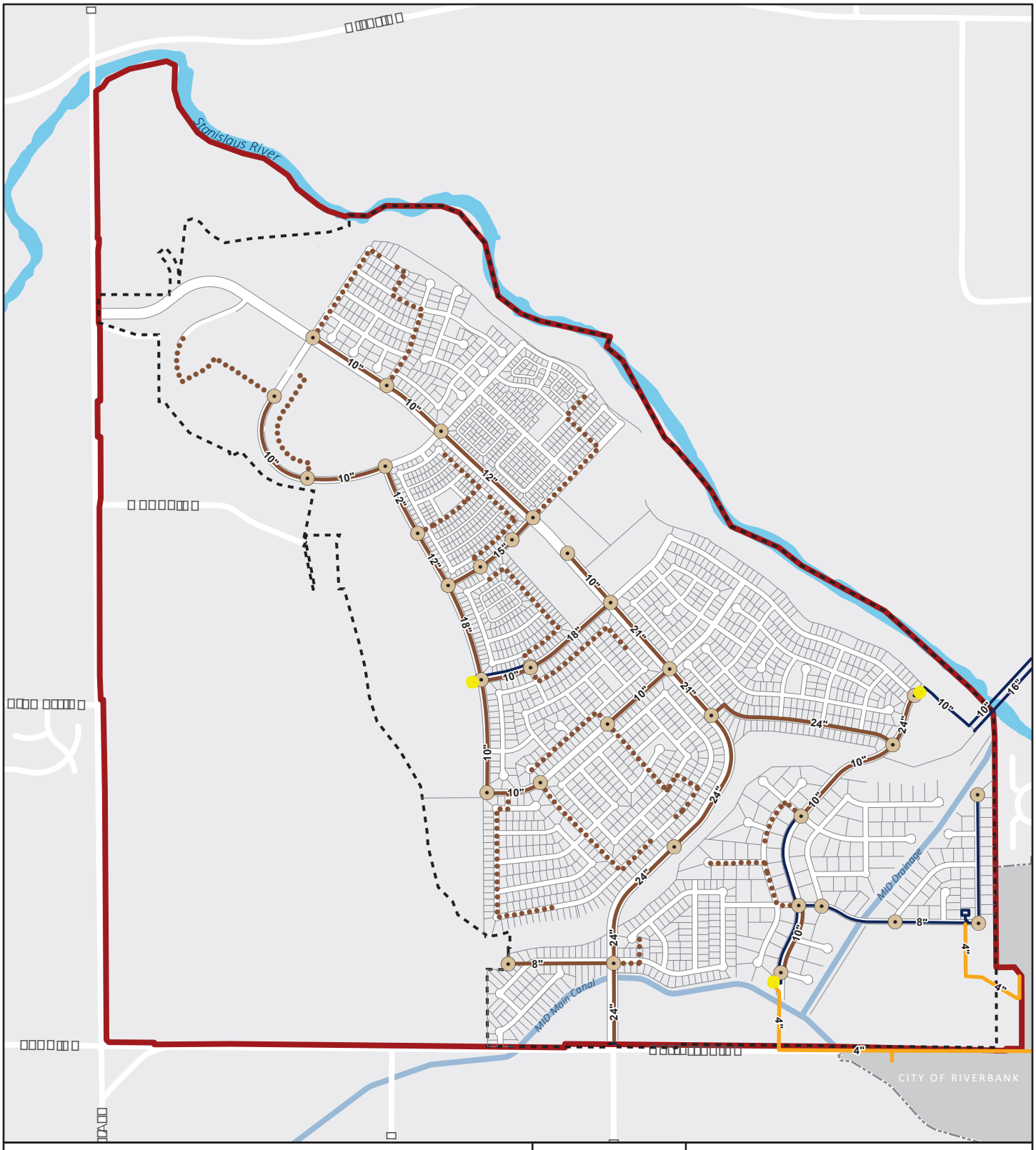
Sources: Stanislaus County GIS. Map date: January 23, 2024.

RIVERWALK SPECIFIC PLAN

Figure 2.0-14.
Preliminary Water Plan

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Legend

- Project Area
- Specific Plan Area
- Lot Line
- Proposed Master Plan Sewer Main
- Proposed Neighborhood 8-inch Sewer Main
- Sanitary Sewer Force Main
- Potential Alternative Interim Connection to Existing City System
- Manhole
- Pump Station

N

0 500 1,000

Feet

Sources: Stanislaus County GIS. Map date: January 23, 2024.

RIVERWALK SPECIFIC PLAN

Figure 2.0-15. Preliminary Sanitary Sewer Plan

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

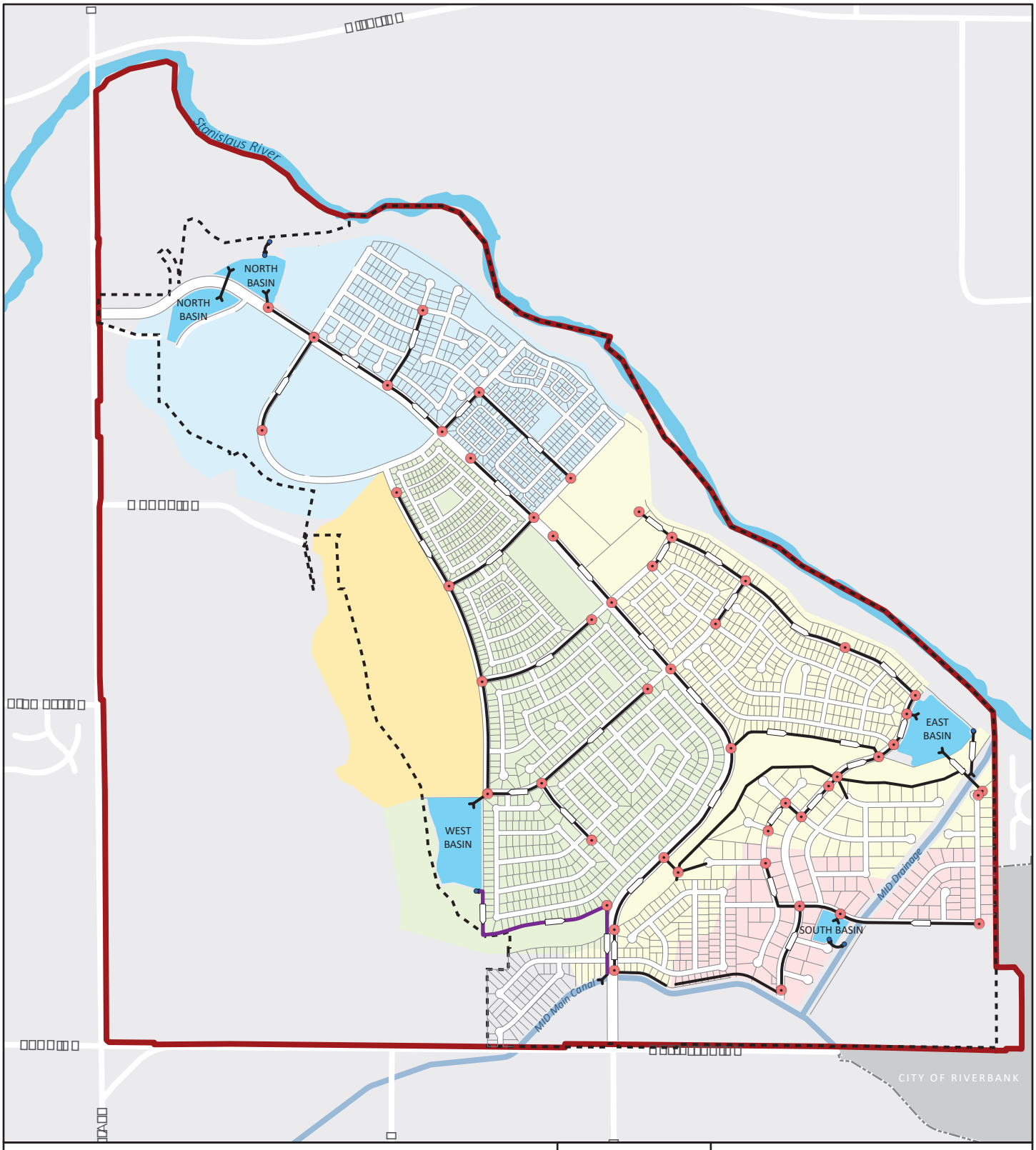
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RIVER WALK SPECIFIC PLAN

Figure 2.0-15b Preliminary Sanitary Sewer Off-site Plan

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Legend

- Project Area
- Specific Plan Area
- Storm Drain Pipe
- Force Main
- Pump Station
- Manhole
- Flow Direction
- Drainage Basin

Drainage Areas

- Drains to North Basin
- Drains to South Basin
- Drains to West Basin
- Drains to East Basin
- Reserve Area (Self-Retaining)

0 500 1,000
Feet

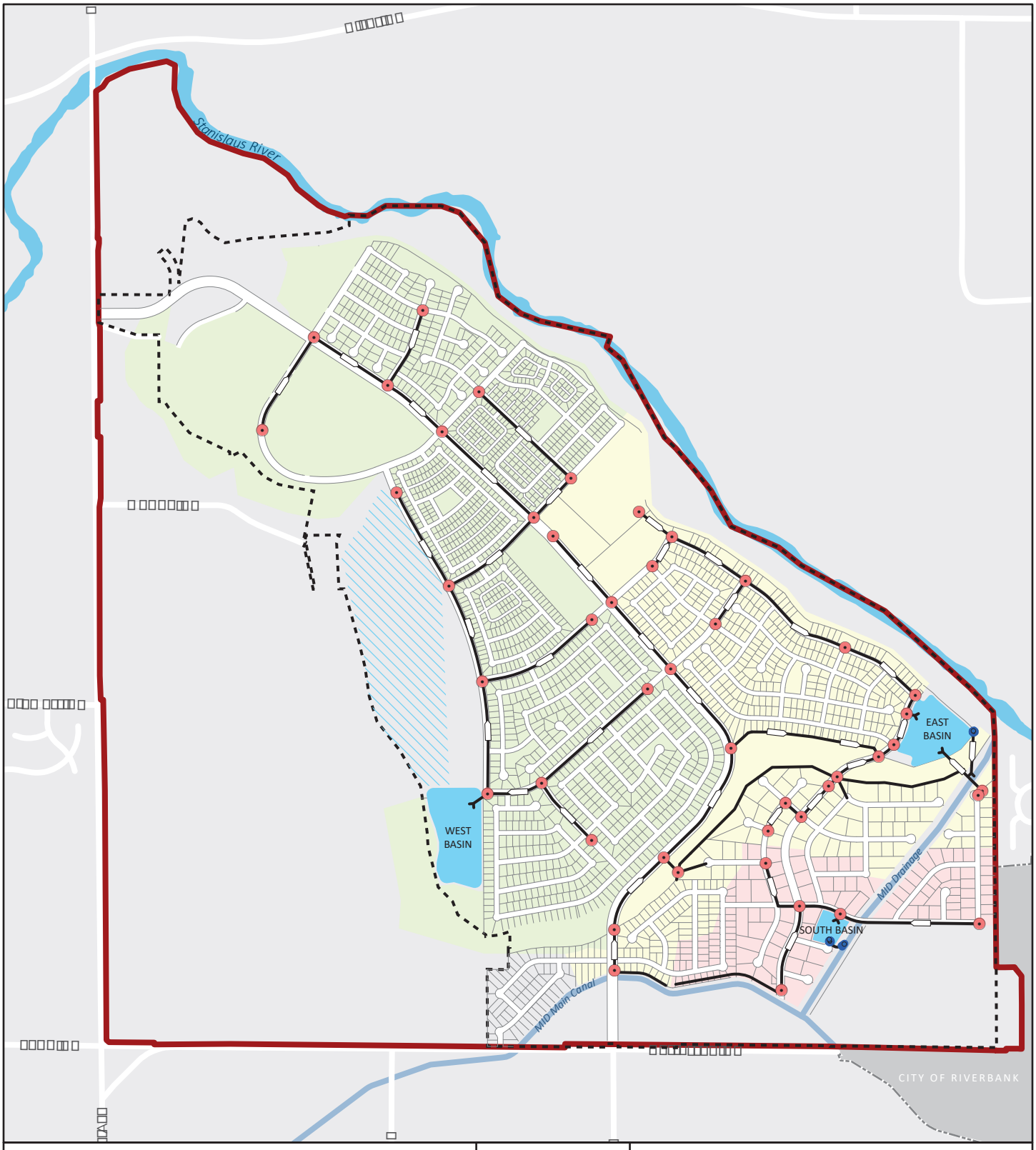
Sources: Stanislaus County GIS. Map date: January 23, 2024.

RIVERWALK SPECIFIC PLAN

Figure 2.0-16.
Storm Drainage Plan

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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Legend

- Project Area
- Specific Plan Area
- Storm Drain Pipe
- Pump Station
- Manhole
- Flow Direction
- Drainage Basin

Drainage Areas

- Drains to South Basin
- Drains to West Basin
- Drains to East Basin
- Shallow Ponding Zone

0 500 1,000
Feet

Sources: Stanislaus County GIS. Map date: January 23, 2024.

RIVERWALK SPECIFIC PLAN

Figure 2.0-17. Alternative Preliminary Reserve Area Shallow Flooding Plan

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This section provides an overview of the visual character, scenic resources, views, scenic highways, and sources of light and glare that are encountered in the Project Area and the vicinity. This section concludes with an evaluation of the impacts and recommendations for mitigating impacts.

There were no comments received during the NOP comment period that specifically address aesthetics or visual resources. Some comments were provided within the context of the commenter's concern for the change from agriculture to developed uses. The physical change from agricultural to non-agricultural is mostly addressed in the Agricultural Resources chapter of this EIR, but this section does address the visual changes associated with the change of use. Full comments received are included in Appendix A.

3.1.1 ENVIRONMENTAL SETTING

REGIONAL SCENIC RESOURCES

Visual resources are generally classified into two categories: scenic views and scenic resources. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually mid-ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. Scenic resources are specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements.

Aesthetically significant features occur in a diverse array of environments within the region, ranging in character from urban centers to rural agricultural lands to natural water bodies. Features of the built environment that may also have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the visually significant built environment may include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, and a location where a historic event occurred.

SCENIC HIGHWAYS AND CORRIDORS

Scenic highways and corridors make major contributions to the quality of life enjoyed by the residents of a region. The development of community pride, the enhancement of property values, and the protection of aesthetically-pleasing open spaces reflecting a preference for the local lifestyle are all ways in which scenic corridors are valuable to residents.

Scenic highways and corridors can also strengthen the tourist industry. For many visitors, highway corridors will provide their only experience of the region. Enhancement and protection of these corridors ensures that the tourist experience continues to be a positive one and, consequently, provides support for the tourist-related activities of the region's economy.

Scenic Highways

A scenic highway is generally defined by the California Department of Transportation (Caltrans) as a public highway that traverses an area of outstanding scenic quality, containing striking views, flora, geology, or other unique natural attributes. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

The status of a proposed state scenic highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway.

Only one highway section in Stanislaus County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of Interstate 5 (I-5) from the San Joaquin line in the north to the Merced County line in the south. Views from this route are primarily agricultural with distant views of the Coast Range. The City of Riverbank and the Project Area are not visible from this roadway segment.

Scenic Corridors

A scenic corridor is the view from the road that may include a distant panorama and/or the immediate roadside area. A scenic corridor encompasses the outstanding natural features and landscapes that are considered scenic. It is the visual quality of the man-made or natural environments within a scenic corridor that are responsible for its scenic value. Commonly, the physical limits of a scenic corridor are broken down into foreground views (zero to one quarter mile) and distant views (over one quarter mile). In addition to distinct foreground and distant views, the visual quality of a scenic corridor is defined by special features, which include:

- Focal points - prominent natural or man-made features which immediately catch the eye.
- Transition areas - locations where the visual environment changes dramatically.
- Gateways - locations which mark the entrance to a community or geographic area.

There are no County designated scenic corridors, or trails, located in the Project Area. A portion of Highway 108 in the County is designated as a Scenic Highway by the County. The Scenic Highway 108 Sonora Pass route begins at an elevation of about 3,000 feet, and rises to an elevation of 9,628 feet above sea level. The pass connects the communities of Sonora to the west and Bridgeport to the east. The City of Riverbank and the Project Area are not visible from the Scenic Highway 108 Sonora Pass route.

SCENIC WATER RESOURCES AND WILD AND SCENIC RIVERS

Water resources are important visual resources that draw tourists to the area for recreational opportunities. The most visually significant water body in the region is the Stanislaus River.

Wild and Scenic Rivers

Federal agencies have jurisdiction, under the Wild and Scenic Rivers Act, to designate rivers or river sections to "be preserved in free-flowing condition and…protected for the benefit and enjoyment of present and future generations."

The Tuolumne River is designated as Wild and Scenic River under the Federal Wild and Scenic Rivers Act from the source to the Don Pedro Reservoir. The City of Riverbank and the Project Area are not visible from the Tuolumne River. Although the Project Area abuts a portion of the Stanislaus River, this River is not designated as a Wild and Scenic River.

PROJECT AREA CONTEXT

Existing Uses

The current uses in the Project Area are predominantly agricultural operations, including almond and walnut orchards in the eastern/southeastern portion of the Project Area and cherry orchards and fallow land in the western/central portion of the Project Area. The land in the north/northwestern portion of the Project Area contains fallow land and various trees including Eucalyptus and Willow trees. In addition, the land in the northwest corner of the Project Area is the site of a recent large fire. Approximately 31 home sites, 6,756 square feet of commercial uses, and horse ranch exist within the Project Area. Additionally, an approximately 150-acre solar farm and the Modesto Rifle Club exist in the in the southwest portion of the Project Area directly northeast of the intersection of Patterson Road and McHenry Avenue, and the Morris Nursery exists in the southeastern corner of the Project Area directly northwest of the intersection of Patterson Road and Rock Creek Road.

The Project Area topography ranges greatly in elevation from approximately 75 to 159 feet above sea level. The high area to the south and west is approximately 100 to 125 feet above mean sea level and acts as a ridge surrounding the lowland areas which are approximately 75 to 80 feet above mean sea level. There is a steep banked slope that separates the high and low areas. Other than the prominent steep sloping banked areas, the majority of the Project Area contains gentle slopes and is generally characterized as flat. Figure 2.0-4 shows the topography of the Project Area.

An agricultural ditch transects the Project Area starting in the southern part of the Berghill property running generally north to northwest generally following the Berghill property boundary. The agricultural ditch is a manmade agricultural drainage facility designed to collect irrigation and agricultural runoff from the low areas of the Project Area.

The Modesto Irrigation District (MID) provides the water supply for the existing agricultural uses and maintains two easements in the Project Area. A MID main canal with a crossing is located approximately 950 feet to the west and approximately 0.45 miles to the east of the intersection of Patterson Road and Coffee Road in the southern portion of the Project Area. The canal enters in the southwest portion of the Project Area and runs to the northeast eventually curving to exit the

Project Area in the southeast. A series of private irrigation ditches and pipes distribute the MID water from the on-site canals throughout the Project Area for agricultural use.

Much of the Project Area is active agricultural land. While this land is disturbed from its natural condition, developed agricultural land can provide visual relief to a passerby/viewer from common manmade structures and visual obstructions found in a developed environment. Agricultural lands provide a sense of openness that is common in natural environments. Throughout the year agricultural operations would result in the land evolving from an environment that appears lush with vegetation (green crops) to an environment that appears barren (recently tilled). According to the Stanislaus County General Plan EIR, agricultural land in the region offers expansive views that extend over the valley floor to the east and Diablo Range to the west. These landscape views are strongly characteristic of the Central Valley and have contributed to the regional identity.

Surrounding Uses

The Project Area is located outside the northwestern boundary of the City of Riverbank Sphere of Influence (SOI), within the unincorporated area of Stanislaus County. The Project Area is bounded on the north by the Stanislaus River and Stanislaus County Limits, on the south by Patterson Road, on the west by McHenry Avenue, and on the east by single-family residential subdivision. Uses immediately adjacent to the south and southwest of the Project Area include agricultural uses and residential uses, including ranchettes and large estates lots. Uses directly southeast of the Project Area include agricultural uses and a single-family residential subdivision. Other existing uses east of the southerly portion of the Project Area include a single-family residential subdivision and a commercial center. Uses immediately west of the Project Area include active agricultural land and the Del Rio Country Club, including a golf course and associated single-family residential subdivision. Other nearby uses include agricultural uses and residential uses, including ranchettes and large estates lots to the north, northeast, and northwest across the Stanislaus River. Figures 2.0-1 and 2.0-2 in Section 2.0, Project Description, illustrate the regional location and Project vicinity.

Existing Light Sources

There are minimal existing light sources in the Project Area. One horse ranch and approximately 25 rural residences with associated accessory structures (i.e., garages, barns, storage buildings) are located throughout the Project Area and include minimal outdoor lighting. Additionally, an approximately 150-acre solar farm and the Modesto Rifle Club exist in the in the southwest portion of the Project Area directly northeast of the intersection of Patterson Road and McHenry Avenue, and the Morris Nursery exists in the southeastern corner of the Project Area directly northwest of the intersection of Patterson Road and Rock Creek Road. Outdoor lighting at these facilities includes parking lot lighting and field lighting. Other existing lighting in the vicinity of the Project Area includes: lighting from residential areas to the west, east, and southeast of the Project Area.

3.1.2 REGULATORY SETTING

STATE

California Scenic Highway Program

The intent of the California Scenic Highway Program is "to protect and enhance California's natural scenic beauty and to protect the social and economic values provided by the State's scenic resources." Caltrans administers the program, which was established in 1963 and is governed by the California Streets and Highways Code §260 et seq. The goal of the program is to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of the adjacent land. Caltrans has compiled a list of state highways that are designated as scenic and county highways that are officially designated or eligible for designation as scenic. Scenic highway designation can provide several types of benefits to the region. Scenic areas are protected from encroachment of inappropriate land uses, free of billboards, and are generally required to maintain existing contours and preserve important vegetative features. Only low-density development is allowed on steep slopes and along ridgelines on scenic highways, and noise setbacks are required for residential development.

To obtain an official "Scenic Highway" designation, the State and Caltrans require a responsible local agency or Local Governing Body (LGB) to prepare a scenic corridor protection plan. In the Tracy area, Stanislaus County is the LGB. Corridor protection programs are required to contain the following five elements:

- Regulations of land use and density of development;
- Detailed land and site planning;
- Control of outdoor advertising;
- Careful attention to and control of earthmoving and landscaping; and
- The design and appearance of structures and equipment. [1]

According to the Caltrans Scenic Highway Programs website, Caltrans monitors state-designated scenic routes in order to ensure each local jurisdiction's consistency with State guidelines. Specifically, Caltrans District Scenic Highway Coordinator (DSHC) will review a scenic highway for compliance every five years, but can recommend the revocation of scenic designation at any time. To enforce the program, the DSHC will contact the responsible local agency or LGB, in this case, Stanislaus County. The LGB must either respond by submitting its current Corridor Protection Program or a letter of intent to request a revocation of the scenic designation. The DSHC reviews the submittal and takes corrective action to resolve any issues of non-compliance, certifies compliance, or recommends revocation of scenic designation.

[1] Scenic Highways Program website, Frequently Asked Questions, https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/lap-liv-i-scenic-highways-faq2, accessed on November 25, 2019.

LOCAL

The City of Riverbank General Plan identifies visual and scenic resources within the City and recommends measures to protect these resources.

City of Riverbank General Plan

The City of Riverbank does not contain any areas officially designated as a scenic vista. However, the General Plan identifies the importance of visual characteristics in establishing community identity. For example, Goal CONS-7 aims to maintain and increase public access to Riverbank's scenic resources, which generally include the Stanislaus River, the Scenic Highway 108 corridor, and the agricultural resource conservation areas in the western and northeastern extremities of the General Plan Planning Area. Additional General Plan goals and policies address the protection of scenic resources within the City.

City of Riverbank Municipal Code

Chapter 157, Water Efficient Landscape and Irrigation, of the City Municipal Code contains standards and provisions related to irrigation and landscaping design requirements that would apply to the proposed Project. The primary intent of Chapter 157 is to enhance the aesthetic appearance of development in all areas of the City and to establish a water conservation plan to reduce water consumption. The provisions which apply to the Project include submittal of a landscape plan, parking lot landscaping design standards, and other development standards set forth in Section 157.05 of the Code.

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on aesthetics if it will:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with the applicable zoning and other regulations governing scenic quality; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character. (Significant and Unavoidable)

Development Characteristics

Development of the proposed Project would convert the site from its existing use as primarily agricultural land to developed residential housing, a commercial mixed-use area, and park and open spaces uses.

Project components would include:

- Development of up to 2,432 residential dwelling units within residential designations including:
    - 1,550 – Low Density Residential Units
    - 702 – Medium Density Residential Units
    - 180 – High Density residential Units
- Development of approximately 71.75 acres of Mixed-Use for the development in six specific areas offering neighborhood-scale retail uses, offices, personal and commercial services, with opportunities for higher-density residential development in a vertical or horizontal mixed-use setting.
    - MU-1 – Approximately 39 acres of general retail use, possibly shopping center with visitor serving uses, resulting in up to 420,000 square feet of space under a .25 FAR, or up to 350 residential units, assuming a development density of around 18 units to the acre.
    - MU-2 and MU-3 – Approximately 15.35 acres, of a retail use that can serve a passerby, as well as local residents (i.e., gas station, small restaurant, real estate sales, law firm, tax firm, medical/dental, etc.) resulting in up to 175,000 square feet of space under a .25 FAR.
    - MU-4 – Approximately 8.01 acres for an age-restricted active adult community clubhouse with a 20,000 square foot clubhouse building with fitness center, restaurant, lounge, event/meeting space, outdoor pool/spa, outdoor BBQ and seating area, tennis/pickle ball courts, bocce ball courts, community garden area, and other amenities.
    - MU-5 – Approximately 5.35 acres for an age-restricted active adult multi-story building with neighborhood retail uses on the first story and high-density housing or office on the second story. The first story uses would include small restaurants (i.e., coffee shop, deli, small office services). The first story is anticipated to have up to 110,000 square feet of building space. The second story is anticipated to have up to 110,000 square feet of building space, which could be up to 100 high density units, or commercial/retail serving uses, or a combination of both.

  - MU-6 – Approximately 4.04 acres of a retail use that can serve a passerby, as well as local residents (i.e., gas station, small restaurant, real estate sales, law firm, tax firm, medical/dental, etc.) resulting in up to 44,000 square feet of space under a .25 FAR.

- Development of approximately 204.98 acres of Park, Greenway, and Open Space.

Scenic Vistas and Resources

The Project Area is not designated as a scenic vista by the City of Riverbank General Plan or the Stanislaus County General Plan. Nor does it contain any unique or distinguishing features that would qualify the site for designation as a scenic vista or scenic resource under an established program. However, not qualifying for designation under a scenic program does not take away from the fact that Project Area contains aesthetically pleasing features such as orchards and other agricultural land, riparian habitat, the Stanislaus River, natural topography, etc. The City's General Plan EIR notes that views of the Stanislaus River are considered to be very important by members of the Riverbank community. Furthermore, these features are desirable to residents throughout the region, as well as visitors passing through regardless of whether they meet the criteria for scenic programs.

Visual Changes

Development of the proposed Project would result in new development adjacent to the Stanislaus River and its riparian habitat, but would not result in any direct disturbance to the river or habitat. Development of the proposed Project would eliminate most of the orchard/agricultural areas within the Specific Plan area, but all other areas in the Project Area would remain unchanged. Much of the Specific Plan Area is in the lower area (i.e., Berghill property), which is not visible from the main public roadways fronting the Project Area (i.e., Patterson Road and McHenry Road). The residents that live within the Project Area predominately along the top of the bluff and outside the Specific Plan Area would have the most notable visual changes because of their proximity to the new development and their views of the existing uses in the Berghill Property.

Impacts related to a change in visual character are largely subjective and very difficult to quantify. People have different reactions to the visual quality of a project or a project feature, and what is considered "attractive" to one viewer may be considered "unattractive" to other viewers. The Project Area currently consists primarily of agricultural lands, which are generally considered to provide visual relief from urban and suburban developments, and help to define the character of a region. The loss of agricultural lands can have an adverse cumulative impact on the overall visual character and quality of a region. Other existing on-site uses include the Parks, trails, and Modesto Irrigation District's canals. These features are generally considered attractive to viewers, and provide small scale visual relief within developed suburban areas.

Project Aesthetics

The proposed Project would include visual components that would assist in enhancing the appearance of the Specific Plan Area following site development. These improvements would include landscaping improvements along roadways, front yards, trails, parks, and commercial parking areas. In addition, the proposed Project would result in the development of approximately

204.98 acres of park and open space areas with a variety of passive and active recreational opportunities. The park and open space areas will fall into two different land use designations: Parks (P), and Buffer/Greenway/Open Space (B/G/OS), which will result in areas of green space within the of Specific Plan Area. The areas outside the Specific Plan Area, but within the Project Area would remain visually unchanged.

Residential homes would be traditional one- and two-story homes, and high density residential and commercial buildings would not be over 75 feet high to ensure that existing views are not impeded.

Conclusion

The proposed Project would result in the conversion of land in the Specific Plan Area from agricultural uses to a developed use. There are no designated scenic vistas or resources that would be impacted. Nevertheless, the "attractive" aesthetics of the agricultural areas in the Specific Plan Area would be visually changed in perpetuity. There are a variety of design elements, such as open space, park, landscaping, and natural features in the Specific Plan area that will provide "attractive" elements to the human environment. However, the proposed Project would permanently convert the agricultural and undeveloped uses to a developed use and would create a change in the visual characteristics of the site that is generally considered less "attractive" then the existing condition. This is considered a ***significant and unavoidable*** impact. There is no feasible mitigation available that would reduce this impact to a less than significant level.

Impact 3.1-2: Project implementation may substantially damage scenic resources within a State Scenic Highway. (Less than Significant)

There are no designated State Scenic Highways in the vicinity of the Project Area. Only one highway section in Stanislaus County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of I-5 from the San Joaquin County line to the Merced County line. Views from this route are primarily agricultural with distant views of the Coast Range. The City of Riverbank and the Project Area are not visible from this roadway segment.

There are no County designated scenic corridors, trails, or rivers located in the Project Area. Additionally, there are no "eligible" highway segments in the Project vicinity that may be included in the State Scenic Highway system. As such, this is a ***less than significant*** impact, and no mitigation is required.

Impact 3.1-3: Project implementation may result in light and glare impacts. (Less than Significant)

Implementation of the proposed Project would introduce new sources of light and glare into the Project Area. New sources of glare would occur primarily from the windshields of vehicles travelling to and from the Project Area and from vehicles parked at the site. There is also the potential for reflective building materials and windows to result in increases in daytime glare.

The City of Riverbank has an Architectural Design Review Process that projects must undergo prior to construction. This process includes the preparation of detailed architectural plans/building

plans, building materials boards, landscaping plans, lighting plans, etc. This process is a much more detailed design-level process of review when building design is known, whereas the proposed project is a long-range planning effort limited to a tentative map level design. The architectural design review process includes a review of the buildings for reflective materials that would cause glare, as well as lighting plans that could cause impacts to neighbors.

A detailed lighting plan has not been prepared for the proposed Project and is not available at this early planning stage, but for the purposes of this analysis, it has been conservatively assumed that nighttime street lighting, outdoor recreational lighting, and safety lighting will be installed throughout the Project Area. This would occur along roadways, on residential lots, on mixed use commercial sites, in park areas, and within the trail systems in accordance with the City's standards.

The River Walk Specific Plan Design Guidelines (Chapter 7, Design Guidelines) provides standards for light nuisance prevention and light shielding requirements. For example, the Specific Plan requires landscape lighting to utilize low voltage systems and fixtures and to be located to prevent light from being cast onto adjacent properties, or away from the building or landscape features intended to be illuminated. The proposed Design Guidelines also include requirements for the installation of parking lot lighting and landscaping which further limit light spillage and glare impacts.

The Riverbank General Plan EIR determined the impact of new sources of light and glare can be minimized by incorporating design features and operating requirements into new developments that limit light and glare. Policy CONS-7.6 requires lighting to be designed to avoid glare, prevent light spillage on adjacent properties, and avoid light pollution that would contribute light to the nighttime sky.

Light and Glare impacts may also be present from building materials used throughout the Project area. The Specific Plan Design Guidelines establishes a mix of residential building materials and discourages the use of materials that may create glare beyond the project area. Specifically, building materials that could create glare conditions beyond the project site are strongly discouraged.

The proposed Project lighting would be required to incorporate design features, consistent with Policy CONS-7.6, that minimize the effects of light and glare, and material selections consistent with the Specific Plan's Design Guidelines aimed to limit light and glare. In addition, the City requires that a lighting plan to be prepared in association with improvement plans for each phase of development. The lighting plan would demonstrate that the lighting systems and other exterior lighting throughout the phase of development has been designed to minimize light spillage onto adjacent properties to the greatest extent feasible and in accordance with the City's requirements. Implementation of the City's municipal code standards for lighting would reduce potential impacts associated with nighttime lighting and light spillage onto adjacent properties to a ***less than significant*** level.

This section provides an overview of the agricultural crops in Stanislaus County and the City of Riverbank, agricultural capability of the soils in the Project Area, and existing site conditions. This section concludes with an evaluation of the impacts related to agricultural resources and recommendations for mitigating impacts as needed. Information in this section is derived primarily from the *California Important Farmlands Map* (California Department of Conservation, 2012), the *California Land Conservation (Williamson) Act Status Report* (California Department of Conservation, 2018), the *Stanislaus County Agricultural Report* (Stanislaus County Agricultural Commissioner, 2020), the California Department of Conversation's "FMMP – Rural Land Mapping Project" (California Department of Conservation, 2020), and the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS, 2020).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the California Department of Conservation Division of Land Resource Productions, Dennis V. Jackman, Stanislaus County Land Agency Formation Commission (LAFCO), Annabel and Allen Gammon, Jeanni Ferrai, Blake & Alicia Fisher, Bernard & Jami Aggers, the Central Valley Concerned Citizens, Matt Veneman, Susan Wedegaertner, and Wendy Summers, Betsy Waltson. Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

No forest resources are located in the Project Area, and it is not zoned for forest land. Therefore, this CEQA topic is not relevant to the proposed Project and will not be addressed further in this EIR.

3.2.1 ENVIRONMENTAL SETTING

STANISLAUS COUNTY AGRICULTURE

Stanislaus County contains approximately 3,621 farms with an average farm size of approximately 200 acres. The County's Agricultural Commissioner's most recent published Crop Report (2020) contains the following information about agriculture in the County.

Agricultural Value

Stanislaus County has a total land area of 1,494.5 square miles. The total harvested acres in 2020 was 908,935. The gross value of agricultural production for 2020 was $3,476,093,000. This represents a 3% decrease from the 2019 value of $3,598,404,000.

Table 3.2-1 lists the top ten commodities in Stanislaus County in 2020.

TABLE 3.2-1: SUMMARY COMPARISON OF COMMODITY VALUES

PRODUCT TYPE	*2020 VALUE IN DOLLARS*
Apiary Products	$ 105,638,000
Field Crops	$ 172,816,000
Fruit and Nut Crops	$ 1,365,573,000
Livestock and Poultry	$ 608,798,000
Livestock and Poultry Products	$ 782,421,000
Nursery Products	$ 210,746,000
Organic Products	$ 37,528,000
Other Agriculture	$ 29,047,000
Vegetable Crops	$ 163,526,000

SOURCE: STANISLAUS COUNTY CROP REPORT, 2020.

AGRICULTURAL CAPABILITY

The California Department of Conservation Farmland Mapping and Monitoring Program identifies lands that have agriculture value and maintains a statewide map of these lands called the Important Farmlands Inventory (IFI). IFI classifies land based upon the productive capabilities of the land, rather than the mere presence of ideal soil conditions.

The suitability of soils for agricultural use is just one factor for determining the productive capabilities of land. Suitability is determined based on many characteristics, including fertility, slope, texture, drainage, depth, and salt content. A variety of classification systems have been devised by the state to categorize soil capabilities. The two most widely used systems are the Capability Classification System and the Storie Index. The Capability Classification System classifies soils from Class I to Class VIII based on their ability to support agriculture with Class I being the highest quality soil. The Storie Index considers other factors such as slope and texture to arrive at a rating. The IFI is in part based upon both of these two classification systems.

Soil Capability Classification System

The Soil Capability Classification System takes into consideration soil limitations, the risk of damage when soils are used, and the way in which soils respond to treatment. Capability classes range from Class I soils, which have few limitations for agriculture, to Class VIII soils that are unsuitable for agriculture. Generally, as the rating of the capability classification increases, yields and profits are more difficult to obtain. A general description of soil classifications, as defined by the NRCS is provided in Table 3.2-2 below.

TABLE 3.2-2: SOIL CAPABILITY CLASSIFICATION

CLASS	*DEFINITION*
I	Soils have slight limitations that restrict their use.
II	Soils have moderate limitations that restrict choice plants or that require moderate conservation practices.
III	Soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.
IV	Soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.
V	Soils are not likely to erode but have other limitations; impractical to remove that limits their use largely to pasture or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.
VIII	Soils and landforms have limitations that preclude their use for commercial plans and restrict their use to recreation, wildlife habitat, water supply, or aesthetic purposes.

SOURCE: USDA SOIL CONSERVATION SERVICE.

Storie Index Rating System

The Storie Index Rating system ranks soil characteristics according to their suitability for agriculture from Grade 1 soils (80 to 100 rating) which have few or no limitations for agricultural production, to Grade 6 soils (less than 10) which are not suitable for agriculture. Under this system, soils deemed less than prime can function as prime soils when limitations such as poor drainage, slopes, or soil nutrient deficiencies are partially or entirely removed. The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided below in Table 3.2-3.

TABLE 3.2-3: STORIE INDEX RATING SYSTEM

GRADE	*INDEX RATING*	*DEFINITION*
1	80 – 100	Few limitations that restrict their use for crops
2	60 – 80	Suitable for most crops, but have minor limitations that narrow the choice of crops and have a few special management needs
3	40 – 60	Suited to a few crops or to special crops and require special management
4	20 – 40	If used for crops, severely limited and require special management
5	10 – 20	Not suited for cultivated crops, but can be used for pasture and range
6	Less than 10	Soil and land types generally not suited to farming

SOURCE: USDA SOIL CONSERVATION SERVICE, SOIL SURVEY OF YOLO COUNTY, CALIFORNIA, 1972.

In addition to soil suitability, other factors for determining the agricultural value of land include whether soils are irrigated, the depth of soil, water-holding capacity, and physical and chemical characteristics. Areas considered to have the greatest agricultural potential are designated as Prime Farmland or Farmland of Statewide Importance.

Important Farmlands

The Farmland Mapping and Monitoring Program (FMMP) is a farmland classification system administered by the California Department of Conservation. Important farmland maps are based on the Land Inventory and Monitoring criteria, which classify a land's suitability for agricultural

production based on both the physical and chemical characteristics of soils, and the actual land use. The system maps five categories of agricultural land, which include important farmlands (prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance) and grazing land, as well as three categories of non-agricultural land, which include urban and built-up land, other land, and water area.

IMPORTANT FARMLANDS IN STANISLAUS COUNTY

Data from the Department of Conservation indicates that approximately 2,733 acres of Prime Farmland in Stanislaus County were developed for other uses between 2016 and 2018, resulting in an existing total of 249,967 acres of Prime Farmland (26 percent of agricultural land). The remaining agricultural land in the County is comprised of Farmland of Statewide Importance (3.4 percent), Unique Farmland (12.0 percent), Farmland of Local Importance (2.7 percent), and Grazing Land (41.7 percent). The types and acreages of farmland in 2016 and 2018 are shown below in Table 3.2-4. (*Note, the 2016 and 2018 data is the latest available data from the State at the time this document was written*.)

TABLE 3.2-4: STANISLAUS COUNTY FARMLANDS SUMMARY AND CHANGE BY LAND USE CATEGORY

LAND USE CATEGORY	*2016-2018 ACREAGE CHANGES*							
	TOTAL ACREAGE INVENTORIED				*ACRES LOST*	*ACRES GAINED*	*TOTAL ACREAGE CHANGED*	*NET ACREAGE CHANGED*
	2016		*2018*		*(-)*	*(+)*		
	Acres	*Percent*	*Acres*	*Percent*				
Prime Farmland	249,964	25.7%	250,420	25.8%	1,328	1,784	3,112	456
Farmland of Statewide Importance	33,172	3.4%	33,042	3.4%	596	466	1,062	-130
Unique Farmland	116,212	12.0%	121,930	12.6%	166	5,884	6,050	5,718
Farmland of Local Importance	26,030	2.7%	23,058	2.4%	3,591	619	4,210	-2,972
IMPORTANT FARMLAND SUBTOTAL	425,378	43.8%	428,450	44.2%	5,681	8,753	14,434	3,072
Grazing Land	404,404	41.7%	400,541	41.2%	4,896	1,033	5,929	-3,863
AGRICULTURAL LAND SUBTOTAL	829,782	85.5%	828,991	85.4%	10,577	9,786	20,363	-791
Urban and Built-up Land	66,229	6.8%	66,810	6.9%	131	712	843	581
Other Land	66,682	6.9%	66,936	6.9%	1,258	1,512	2,770	254
Water Area	7,480	0.8%	7,436	0.8%	44	0	44	-44
TOTAL AREA INVENTORIED	970,173	100%	970,173	100%	12,010	12,010	24,020	0

SOURCE: CA DEPARTMENT OF CONSERVATION, DIVISION OF LAND RESOURCE PROTECTION TABLE A-41, 2018.

EXISTING SITE CONDITIONS

The current uses in the Project Area are predominantly agricultural operations, including almond and walnut orchards in the eastern/southeastern portion of the Project Area and cherry orchards and fallow land in the western/central portion of the Project Area. The land in the

north/northwestern portion of the Project Area contains fallow land and various trees including Eucalyptus and Willow trees. In the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. Additionally, a horse ranch exists within the Project Area. The Project Area also includes a commercial nursery business and truck storage area. Additionally, an approximately 150-acre solar farm and the Modesto Rifle Club exist in the southwest portion of the Project Area directly northeast of the intersection of Patterson Road and McHenry Avenue, and the Morris Nursery exists in the southeastern corner of the Project Area directly northwest of the intersection of Patterson Road and Rock Creek Road.

The Project Area topography ranges greatly in elevation from approximately 75 to 159 feet above sea level. The high area to the south and west is approximately 100 to 125 feet above mean sea level and acts as a ridge surrounding the lowland areas which are approximately 75 to 80 feet above mean sea level. There is a steep banked slope that separates the high and low areas. Other than the prominent steep sloping banked areas, the majority of the Project Area contains gentle slopes and is generally characterized as flat. Figure 2.0-4 shows the topography of the Project Area.

An agricultural ditch transects the Project Area starting in the southern part of the Berghill property running generally north to northwest generally following the Berghill property boundary. The agricultural ditch is a manmade agricultural drainage facility designed to collect irrigation and agricultural runoff from the low areas of the Project Area.

The Modesto Irrigation District (MID) provides the water supply for the existing agricultural uses and maintains two easements in the Project Area. A MID main canal with a crossing is located approximately 950 feet to the west and approximately 0.45 miles to the east of the intersection of Patterson Road and Coffee Road in the southern portion of the Project Area. The canal enters in the southwest portion of the Project Area and runs to the northeast eventually curving to exit the Project Area in the southeast. A series of private irrigation ditches and pipes distribute the MID water from the on-site canals throughout the Project Area for agricultural use.

Much of the Project Area is active agricultural land. While this land is disturbed from its natural condition, developed agricultural land can provide visual relief to a passerby/viewer from common manmade structures and visual obstructions found in a developed environment. Agricultural lands provide a sense of openness that is common in natural environments. Throughout the year agricultural operations would result in the land evolving from an environment that appears lush with vegetation (green crops) to an environment that appears barren (recently tilled). According to the Stanislaus County General Plan EIR, agricultural land in the region offers expansive views that extend over the valley floor to the east and Diablo Range to the west. These landscape views are strongly characteristic of the Central Valley and have contributed to the regional identity.

Surrounding Land Uses

The Project Area is located outside the northwestern boundary of the City of Riverbank Sphere of Influence (SOI), within the unincorporated area of Stanislaus County. The Project Area is bounded on the north by the Stanislaus River and Stanislaus County Limits, on the south by Patterson Road, on the west by McHenry Avenue, and on the east by single-family residential subdivisions. Uses immediately adjacent to the south and southwest of the Project Area include agricultural uses and residential uses, including ranchettes and large estates lots. Uses directly southeast of the Project Area include agricultural uses and a single-family residential subdivision. Other existing uses east of the southerly portion of the Project Area include a single-family residential subdivision and a commercial center. Uses immediately west of the Project Area include active agricultural land and the Del Rio Country Club, including a golf course and associated single-family residential subdivision. Other nearby uses include agricultural uses and residential uses, including ranchettes and large estates lots to the north, northeast, and northwest across the Stanislaus River. Figures 2.0-1 and 2.0-2 in Section 2.0, Project Description, illustrate the regional location and Project vicinity.

Important Farmland Designations

The State of California Department of Conservation FMMP and Stanislaus County GIS data were used to illustrate the farmland characteristics for the Project Area. Farmland classifications in the Project Area are identified in Figure 3.2-1 and in Table 3.2-5. Each classification is described below.

TABLE 3.2-5: IMPORTANT FARMLANDS

FARMLAND CLASSIFICATION	*SPECIFIC PLAN AREA - ACRES*	*SOI ONLY - ACRES*	*GRAND TOTAL*
Prime Farmland	661.33	257.99	919.32
Farmland of Statewide Importance	165.80	12.43	178.23
Unique Farmland	27.16	8.50	35.66
Grazing Land	24.63	6.69	31.33
Nonagricultural or Natural Vegetation	86.50	61.98	148.48
Rural Residential Land	10.61	9.16	19.78
Semi-agricultural and Rural Commercial Land	9.52	0.00	9.52
Urban and Built-Up Land	11.40	160.14	171.54
Vacant or Disturbed Land	0.23	7.33	7.57
Grand Total	*997.18*	*524.23*	*1,521.41*

SOURCE: NRCS CUSTOM WEB SOIL SURVEY, 2019; STANISLAUS COUNTY SOIL SURVEY, 1992.

PRIME FARMLAND

Prime Farmland is farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated

agricultural production at some time during the four years prior to the mapping date. The map date for this analysis is June 15, 2022.

The majority of the land within the Project Area, approximately 919.32acres, is designated Prime Farmland, as shown on Figure 3.2-1. This includes approximately 661.33 acres within the Specific Plan Area, and approximately 257.99 acres outside the Specific Plan Area, but within the Project Area. Prime Farmlands are also located west, southwest, and south of the Project Area.

FARMLAND OF STATEWIDE IMPORTANCE

Farmland of Statewide Importance is farmland with characteristics similar to those of prime farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Approximately 178.23 acres of Farmland of Statewide Importance is located within the Project Area with 165.80 of those acres within the Specific Plan Area, and 12.43 acres outside the Specific Plan Area, but within the Project Area. Farmland of Statewide Importance is also located southwest of the Project Area generally following the direction of the MID Main Canal.

UNIQUE FARMLAND

Unique Farmland is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Approximately 35.66 acres of Unique Farmland is located within the Project Area with approximately 27.16acres within the Specific Plan Area, and 8.50 acres outside the Specific Plan Area, but within the Project Area.

GRAZING LAND

Grazing Land includes land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

Approximately 31.33 acres of Grazing Land is located in the Project Area with 24.63 acres within the Specific Plan Area and approximately 6.69 acres outside the Specific Plan Area, but within the Project Area.

URBAN AND BUILT-UP LAND

Urban and Built-Up Land includes lands occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential,

industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

Approximately 171.54acres of Urban and Built-up Land is located in the Project Area with 11.40 of those acres within the Specific Plan Area, and 160.14 acres outside the Specific Plan Area, but within the Project Area. Urban and Built-up Land is also located to the west, southwest, east, and southeast of the Project Area.

SEMI-RURAL AGRICULTURAL AND RURAL COMMERCIAL LAND

Semi-Rural Agricultural and Rural Commercial Land includes farmsteads, agricultural storage and packing sheds, unpaved parking areas, composting facilities, equine facilities, firewood lots, and campgrounds. Lands classified as Semi-Rural Agricultural and Rural Commercial Land are located in one portion of the Project Area (an area approximately 9.52 acres), in the southeastern corner of the Project Area directly adjacent to the MID Drainage Canal.

RURAL RESIDENTIAL

Rural Residential includes rural development which has a building density of less than one structure per 1.5 acres, but with at least one structure per 10 acres. There is approximately 19.88 acres of Rural Residential land within the Project Area with 10.71 of those acres within the Specific Plan Area, and 9.16 acres outside the Specific Plan Area, but within the Project Area.

NONAGRICULTURAL OR NATURAL VEGETATION

Nonagricultural or Natural Vegetation includes heavily wooded, rocky/barren areas, riparian and wetland areas, grassland areas which do not qualify as Grazing Land due to their size or land management restrictions, small water bodies and recreational water ski lakes. Constructed wetlands are also included in this category.

There is approximately 148.51 acres of Nonagricultural or Natural Vegetation within the Project Area with 86.51 acres within the Specific Plan Area, and 61.99 acres outside the Specific Plan Area, but within the Project Area.

VACANT OR DISTURBED LAND

Vacant or Disturbed Land includes open field areas that do not qualify as an agricultural category, mineral and oil extraction areas, off road vehicle areas, electrical substations, channelized canals, and rural freeway interchanges. There is approximately 7.57 acres of Vacant or Disturbed Land within the Project Area with 0.23 of those acres within the Specific Plan Area, and 7.33 acres are outside the Specific Plan Area, but within the Project Area.

Soils and Farmland Characteristics

A Custom Soil Survey was completed for the Project Area using the NRCS Web Soil Survey program. Table 3.2-6 identifies the soils found in the Project Area. The NRCS Soils Map is provided in Figure 3.6-1 in Section 3.6, Geology and Soils.

TABLE 3.2-6: PROJECT AREA SOILS

UNIT SYMBOL	NAME	SPECIFIC PLAN AREA - ACRES	SOI ONLY - ACRES	GRAND TOTAL	CAPABILITY CLASS
132	Columbia Fine Sandy Loam	0.49	0.00	0.49	III-IV
DeA	Delhi loamy sand, 0 to 3 percent slopes	7.50	0.00	7.50	III-IV
DeB	Delhi loamy sand, 3 to 8 percent slopes	1.57	0.00	1.57	III-IV
DhA	Delhi sand, 0 to 3 percent slopes	4.73	2.89	7.62	III-IV
DhB	Delhi sand, 3 to 8 percent slopes	122.23	4.28	126.52	III-IV
FoA	Foster very fine sandy loam, very poorly drained, slightly saline-alkali, 0 to 1 percent slopes	31.45	5.51	36.97	III-IV
GfA	Grangeville fine sandy loam, 0 to 1 percent	155.96	14.22	170.18	II-IV
GmA	Grangeville very fine sandy loam, 0 to 1 percent	253.78	44.33	298.11	II-IV
GnA	Grangeville very fine sandy loam, slightly saline-alkali, 0 to 1 percent slopes	138.03	0.00	138.03	II-IV
GoA	Grangeville very fine sandy loam, moderately saline-alkali, 0 to 1 percent slopes	30.84	0.00	30.84	III-IV
GsA	Greenfield sandy loam 0 to 3 percent slopes	14.57	0.00	14.57	I-IV
GvA	Greenfield sandy loam, deep over hardpan	23.70	5.01	28.72	II-IV
HbmA	Hanford fine sandy loam, moderately deep over sand, 0 to 3 percent slopes	18.60	0.00	18.60	III-IV
HdA	Hanford sandy loam, 0 to 3 percent	98.65	219.13	317.78	I-IV
HdpA	Hanford sandy loam, moderately deep over silt	0.72	16.42	17.14	II-IV
OaA	Oakdale sandy loam, 0 to 3 percent	0.00	21.97	21.97	I-IV
Rr	Riverwash	23.86	6.20	30.05	0-VIII
TuA	Tujunga loamy sand, 0 to 3 percent slopes	31.74	114.04	145.77	III-VI
TuB	Tujunga loamy sand, 3 to 5 percent slopes	0.70	30.61	31.31	III-VI
TvA	Tujunga sand, 0 to 3 percent slopes	0.00	5.66	5.66	IV-VI
Tx	Terrace escarpments	32.15	33.83	65.97	0-VIII
W	Water	5.92	0.13	6.05	0
	Grand Total	***997.18***	***524.23***	***1,521.41***	

** DEPICTS IRRIGATED VS. NON-IRRIGATED CAPABILITY RATING*

SOURCE: NRCS CUSTOM WEB SOIL SURVEY, 2019; STANISLAUS COUNTY SOIL SURVEY, 1992.

Delhi soil series (i.e., DeA, DeB, DhA, DhB). The Delhi series consists of very deep, somewhat excessively drained soils. Delhi soils are formed in wind modified material weathered from granitic rock sources. Delhi soils are on floodplains, alluvial fans and terraces. Slopes are 0 to 15 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 62 degrees F. They are somewhat excessively drained and negligible to slow runoff, and have a rapid permeability. Common uses for this series include: growing grapes, peaches, truck crops, alfalfa and for homesites. Vegetation on uncultivated areas consists of buckwheat and a few shrubs and trees, as well as annual grasses and forbs.

Foster very fine sandy loam (i.e., FoA). The Foster series is a member of a coarse-loamy mixed, noncalcareous, thermic family of Aquic Haploxerolls. The soils have gray to light gray, sandy loam A horizons which become mottled and calcareous in the lower part; light gray to light olive gray, calcareous C horizons. The soils occur on flood plains and are formed in alluvium from acid igneous rocks. The soils are poorly or very poorly drained with moderate permeability and ponded to very slow runoff; however, many areas have altered drainage because of deep pumping for irrigation. Common uses for this series include: grain, pasture, alfalfa and field and truck crops. Natural vegetation is principally grasses, juncus, sedges, willows and cottonwood.

Grangeville soil series (i.e., GfA, GmA, GnA, GoA). The Grangeville series consists of very deep, somewhat poorly drained soils that formed in moderate coarse textured alluvium dominantly from granitic rock sources. Grangeville soils are on alluvial fans and floodplains and have slopes ranging from 0 to 2 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 63 degrees F. This series is intensively used for growing alfalfa, grapes, cotton, truck crops and irrigated pasture. Vegetation in uncultivated areas is annual grasses and forbs with native (sodic) alkali-tolerant plants and a few scattered oak and cottonwood trees.

Greenfield soil series (i.e., GsA, GvA). The Greenfield series consists of deep, well drained soils that formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. Greenfield soils are on alluvial fans and terraces and have slopes of 0 to 30 percent. They have slow to medium runoff and moderately rapid permeability. Common uses for this series include: production of a wide variety of irrigated field, forage and fruit crops, and growing dryland grain and pasture. Vegetation on uncultivated areas consists of annual grass, forbs, some shrubs and scattered oak trees.

Hanford soil series (i.e., HbmA, HdA, HdpA). The Hanford series consists of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains and alluvial fans and have slopes of 0 to 15 percent. They have negligible to low runoff and moderately rapid permeability. Common uses for this series include: growing a wide range of fruits, vegetables, and general farm crops, urban development, and dairies. Vegetation in uncultivated areas is mainly annual grasses and associated herbaceous plants.

Oakdale sandy loam (i.e., OaA). The Oakdale series consists of very deep, well drained soils that formed in alluvium derived from granitic rock sources. They are on nearly level to gently sloping alluvial fans and terraces and in slightly depressed stream channels traversing alluvial fans with slopes of 0 to 5 percent. They have very slow to slow runoff and moderately rapid permeability. Almost all areas are cultivated and irrigated. Common crops are grapes, almonds, peaches, alfalfa, barley, beans, corn and walnuts.

Tujunga soil series (i.e., TuA, TuB, TvA). The Tujunga series consists of very deep, somewhat excessively drained soils that formed in alluvium from granitic sources. Tujunga soils are on alluvial fans and floodplains, including urban areas. Slopes range from 0 to 12 percent. The mean annual precipitation is about 17.7 inches and the mean annual temperature is about 64 degrees F. The soil series is somewhat excessively drained and has a negligible to low runoff. They also have a high saturated hydraulic conductivity with a flooding of none to frequent. This soil is used for grazing, citrus, grapes, other fruits, and urban residential or commercial development. Uncultivated areas have a cover of shrubs, annual grasses and forbs, and in urban areas, ornamentals and turf-grass are common.

Williamson Act Contracts

According to the Stanislaus County Williamson Act Parcels and Non-Renewals map (August 2015), there are nine parcels within the Project Area with active Williamson Act contracts. Two of these nine parcels are within the Specific Plan Boundary and seven parcels are outside the Specific Plan Area but within the Project Area. The total acreage under Williamson Act contracts is 124.85 acres. Table 3.2-7 identifies the parcels under Williamson Act and Figure 3.2-2 illustrates the location of each parcel.

Pursuant to section 51243.5 of the Government Code as it read at the time, the City of Riverbank filed a protest in January 1976 to the Stanislaus County Local Agency Formation Commission (LAFCo) for the two Williamson Act contracts within the Plan Area. These parcels were within the statutory 1- mile distance from the City of Riverbank's corporate boundaries, and were considered to be "Urban Transition" by the City of Riverbank. After reviewing the protest, LAFCo found that the two parcels in question were in fact designated as "Urban Transition" and inconsistent with the publicly desirable future use and control of the land for the purposes set forth under the Williamson Act contract. On April 19, 1978, LAFCo adopted a resolution (Resolution 76-2397) upholding the City of Riverbank's protest for these two parcels. The legal effect as a result of LAFCo upholding the protest is that the Williamson Act "…contract becomes null and void as to the land actually being annexed on the date of annexation…" (See Opinion of John K. Van De Kamp, Attorney General, July 30, 1985 (No. 85-301) in response to a request for an opinion by Stanislaus County, County Counsel Michael H. Krausnick). (68 Ops. Cal. Atty. Gen. 204 (Cal.A.G.) (1985), 1985 WL 167482.)

TABLE 3.2-7: WILLIAMSON ACT CONTRACTS

ACCESSOR PARCEL NUMBER (APN)	*CONTRACT DATE*	*ACRES**	*PLAN AREA OR SOI*
APN: 074-001-001	1974	62.00 acres	SOI
APN: 074-001-008	1976	0.78 acres	SOI
APN: 074-001-009	1976	1.88 acres	SOI
APN: 074-001-010	1974	18.00 acres	SOI
APN: 074-001-011	1980	3.32 acres	SOI
APN: 074-002-024	1974	1.52 acres	SOI
APN: 074-002-025	1974	2.13 acres	SOI
APN: 074-003-013	1975 **	26.00 acres	Plan Area
APN: 074-003-014	1975 **	9.22 acres	Plan Area

**APPROXIMATE ACRES*

*** PARCELS WITH PROTEST UPHELD BY LAFCO ON APRIL 19, 1978.*

SOURCE: STANISLAUS COUNTY WILLIAMSON ACT PARCELS AND NON-RENEWALS, SEPTEMBER 2015; CONSERVATION BIOLOGY INSTITUTE, 2015.

3.2.2 REGULATORY SETTING

FEDERAL

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It ensures that, to the extent practicable, federal programs are compatible with state and local units of government as well as private programs and policies to protect farmland. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for crop production. In fact, the land can be forest land, pastureland, cropland, or other land but does not include water bodies or land developed for urban land uses (i.e., residential, commercial, or industrial uses).

The NRCS administers the Farmland Protection Program. NRCS uses a land evaluation and site assessment (LESA) system to establish a farmland conversion impact rating score on proposed sites of federally funded and assisted projects. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level. The assessment is completed on form AD-1006, Farmland Conversion Impact Rating. The sponsoring agency completes the site assessment portion of the AD-1006, which assesses non-soil related criteria such as the potential for impact on the local agricultural economy if the land is converted to non-farm use and compatibility with existing agricultural use.

The proposed Project is not anticipated to be federally funded; therefore, the Project will not be subject to the FPPA.

STATE

Williamson Act

The California Land Conservation Act of 1965, commonly known as the Williamson Act, was established based on numerous State legislative findings regarding the importance of agricultural lands in an urbanizing society. Policies emanating from those findings include those that discourage premature and unnecessary conversion of agricultural land to urban uses and discourage discontinuous urban development patterns, which unnecessarily increase the costs of community services to community residents.

The Williamson Act authorizes each County to establish an agricultural preserve. Land that is within the agricultural preserve is eligible to be placed under a contract between the property owner and County that would restrict the use of the land to agriculture in exchange for a tax assessment that is based on the yearly production yield. The contracts have a 10-year term that is automatically renewed each year, unless the property owner requests a non-renewal or the contract is cancelled. The property owner can cancel a contract prior to its expiration by paying a fee of up to 12.5 percent of the property value. Williamson Act land exchanges provide a process for local entities and landowners to cancel a Williamson Act contract without paying the cancellation fee, but with the requirement to simultaneously dedicate a permanent agricultural conservation easement on other land. Lastly, Government Code Section 51243 includes special provisions for a land use authority to file a protest with LAFCo for contracts on parcels within one mile of a city, when they are potentially annexable by the City. A protest hearing must be held, and if the protest is upheld at the hearing, it allows for the contract to become "null and void" upon annexation of the parcel into the city.

The agricultural lands in the Berghill property boundary are not under an existing Williamson Act contract or conservation easement; however, according to the Stanislaus County Williamson Act Parcels and Non-Renewals map (August 2015), two parcels within the Specific Plan Boundary (APN: 074-003-013 and APN: 074-003-014) and seven parcels within the Project Area (totaling approximately 124.85 acres) are currently under Williamson Act contract, as previously shown in Table 3.2-7. Figure 3.2-2 provides a map of the active Williamson Act Lands within and adjacent to the Project Area.

The Williamson Act includes a specific provision – Government Code section 51243.5 – for dealing with "land that was within one mile of a city boundary" when a Williamson Act contract "was executed prior to January 1, 1991." At the time a city seeks approval from a local agency formation commission (LAFCo) for the annexation of any such property, LAFCo must consider whether the city may exercise any option the city may possess to opt *not* to succeed to the rights, duties, and powers of the affected county with respect to any Williamson Act contracts within the area.

In determining whether the city may exercise any such option, LAFCo may request, and the Department of Conservation (DOC) shall provide, advice and assistance in interpreting the requirements of section 51243.5. If DOC has concerns about the proposed action, DOC shall advise LAFCo of those concerns, whether or not LAFCo has requested DOC's advice. During the hearing on the proposed annexation, LAFCo shall address DOC's concerns and shall address whether substantial evidence shows that the city has the present option to decline to succeed to the contract(s) at issue. (Gov. Code, § 51243.5, subds. (b) & (c).)

Subdivision (e) of section 51243.5 provides as follows:

> (e) A city may exercise its option to not succeed to the rights, duties, and powers of the county under the contract if each of the following had occurred prior to January 1, 1991:
>
> (1) The land being annexed was within one mile of the city's boundary when the contract was executed.
>
> (2) The city had filed with the local agency formation commission a resolution protesting the execution of the contract.
>
> (3) The local agency formation commission had held a hearing to consider the city's protest to the contract.
>
> (4) The local agency formation commission had found that the contract would be inconsistent with the publicly desirable future use and control of the land.
>
> (5) The local agency formation commission had approved the city's protest.

In considering whether the city can exercise its option not to succeed to the county's rights, duties, and powers with respect to the Williamson Act contract(s) in question, LAFCo shall consider whether all of these criteria have been met. LAFCos should consult their own records to ascertain whether they have previously approved protests from the annexing city.

Farmland Security Zones

In 1998, the state Legislature established the Farmland Security Zone (FSZ) program. FSZs are similar to Williamson Act contracts, in that the intention is to protect farmland from conversion. The main difference however, is that the FSZ must be designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The term of the contract is a minimum of 20 years. The property owners are offered an incentive of greater property tax reductions when compared to the Williamson Act contract tax incentives; the incentives were developed to encourage conservation of prime farmland through FSZs. The non-renewal and cancellation procedures are similar to those for Williamson Act contracts.

The Project Area and the adjacent parcels are not within the FSZ program.

California Government Code Section 560643

This section of the Government Codes defines "Prime agricultural land" as follows:

- Prime agricultural land means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:
    - Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.
    - Land that qualifies for rating 80 through 100 Storie Index Rating.
    - Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.
    - Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will re-turn during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre.
    - Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars ($400) per acre for three of the previous five calendar years.

LOCAL

City of Riverbank Sustainable Agricultural Strategy

In 2016, the City of Riverbank adopted a Sustainable Agricultural Strategy. The purpose of the Sustainable Agricultural Strategy is to meet the stated goals of Stanislaus Local Agency Formation Commission's (LAFCo's) Agricultural Preservation Policy. The document includes strategies to minimize loss of agricultural lands which would result through implementation of the Riverbank 2005-2025 General Plan. The plan for preservation is as follows:

- Properties granted discretionary approval of residential development entitlements that are located on lands designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland by the FMMP, shall be conditioned to cause the permanent preservation of similar quality farmland at a 1:1 ratio of the gross amount of farmland converted to the amount of farmland preserved. The acreage requiring mitigation shall be equal to that portion of the residential parcel subject to the discretionary development entitlement designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.
- Permanent preservation shall consist of the purchase of agricultural conservation easements granted in perpetuity from willing seller(s), enforceable deed restrictions,

purchase of banked mitigation credits, or other conservation mechanisms acceptable to the City.

- Land set aside for permanent preservation shall: (1) be of equal or better soil quality, have a dependable and sustainable supply of irrigation water, and be located within Stanislaus County; and (2) not be previously encumbered by a conservation easement of any nature.
- The land mitigation requirement shall be satisfied prior to City issuance of grading permit, building permits, or final map approval on the subject residential property. The permanent protection of farmland may be accomplished by either: (1) the landowner/developer may work directly with an established farmland trust or similar organization, and provide certification satisfactory to the City that such lands have been permanently preserved at the specified ratio; or (2) it is the City's intent to work with a qualified land trust or similar organization to establish a fee for agricultural land conservation easements. When available, this program would allow for the landowner/developer to pay a fee directly to the City to provide for the required mitigation.

City of Riverbank General Plan

The General Plan Conservation and Open Space Element provides a goal and policy framework for the preservation and conservation of agricultural resources. General Plan agricultural goals and policies applicable to the Project are identified below:

GOALS: CONSERVATION AND OPEN SPACE

- CONS-3. Support the Practice of Agriculture and the Resources Associated with Farming in the Riverbank Planning Area and Beyond.

POLICIES: CONSERVATION AND OPEN SPACE

- CONS-3.1. The City will prepare a comprehensive Sustainable Agricultural Strategy intended to conserve agricultural production in the Stanislaus River Watershed, herein defined as the area within Stanislaus County and San Joaquin County between the Tuolumne and Calaveras Rivers, attributable to implementation of the 2025 General Plan. This strategy should provide flexibility so that it can be tied to land-use and regional agricultural preservation policies, and is intended to be funded on a fair-share basis by those projects that have a significant impact on the conversion of Important Farmlands, a non-renewable resource, to urban use. In determining a level of significance, it is the intent of the City to use quantifiable, measurable inputs and if a project has a significant impact on Farmland resources, then the project will mitigate for this impact.
- CONS-3.2. Ongoing agricultural practices on fertile lands in the western portion of the Riverbank Planning Area shall be protected from encroachment of urban use through the use of buffers. The buffers should also protect residential development from the effects of existing agricultural operations. The buffer shall be designed to protect the feasibility of ongoing agricultural activities on nearby lands and reduce the effects of noise, dust and the application of agricultural chemicals on residential development. The width of the buffer

shall be 300 feet, except that the width of the buffer may be reduced where a project applicant demonstrates that a narrower buffer would protect the feasibility of ongoing agricultural activities on nearby lands and reduce the effects of noise, dust and the application of agricultural chemicals on residential development. Buffer areas may remain as open space or may be used for stormwater management; renewable energy production; community recreation amenities; or any other allowed use consistent with this policy.

Stanislaus LAFCo Agricultural Preservation Policy

One of LAFCo's main charges is to protect and promote agriculture. The Commission amended the Agricultural Preservation Policy on March 27, 2019. The Policy requires applicants to prepare a "Plan for Agricultural Preservation" for annexation proposals that will impact agricultural lands. The Plan must include information such as the proposal's direct and indirect impacts to agricultural resources, the availability of other lands in the City's existing boundaries, and relevant General Plan policies. The Plan must also specify the method or strategy proposed to minimize the loss of agricultural lands. The information provided in the Plan should be consistent with the environmental documentation prepared by the City.

Stanislaus County Farmland Mitigation Program

The purpose of the Farmland Mitigation Program (FMP) is to aid in mitigating the loss of farmland resulting from residential development in the unincorporated areas of Stanislaus County by requiring the permanent protection of farmland based on a 1:1 ratio to the amount of farmland converted. The FMP is designed to utilize agricultural conservation easements granted in perpetuity as a means of minimizing the loss of farmland. The intent of these guidelines is to establish standards for the acquisition and long-term oversight of agricultural conservation easements purchased in accordance with the FMP.

These guidelines shall apply to any development project requiring a General Plan or Community Plan amendment from 'Agriculture' to a residential land use designation of the Stanislaus County General Plan. The acreage requiring mitigation shall be equal to the overall size of the legal parcel subject to the land use designation amendment and not the portion of parcel actually being developed.

Stanislaus County Right-to-Farm Ordinance

The County's Right-to-Farm Ordinance prevents against conflicts between urban and agricultural uses that may adversely affect ongoing agricultural operations. The idea of right-to-farm ordinances is to protect farmers from nuisance suits that may arise when new development (particularly residential development) encroaches into existing and ongoing agricultural areas. The County's ordinance requires disclosure to home buyers in farming areas that they are subject to noise, dust, odors, and other impacts of commercial agricultural operations. The ordinance also provides a voluntary agricultural grievance procedure as an alternative to court proceedings.

The County's right-to-farm ordinance is summarized in Section 9.32.050 of the County Code. According to the Code, for all discretionary approvals of parcel maps or subdivision maps involving

agricultural land, or real property located adjacent to agricultural land, the County Department of Planning and Community Development shall include as a condition of approval that the final recorded map shall contain the following statement:

> *All persons purchasing lots within the boundaries of this approved map should be prepared to accept the inconveniences associated with agricultural operations, such as noise, odors, flies, dust or fumes. Stanislaus County has determined that such inconveniences shall not be considered to be a nuisance if agricultural operations are consistent with accepted customs and standards.*

3.2.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on agricultural resources if it will:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: The proposed Specific Plan has the potential to result in the conversion of Farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses. (Significant and Unavoidable)

Development of the proposed Project would result in the permanent conversion of approximately 661.33 acres of Prime Farmland, 165.80 acres of Farmland of Statewide Importance, and 27.16 acres of Unique Farmland, as shown on Figure 3.2-1, to nonagricultural use. The loss of the 854.29 acres of Important Farmland would be a potentially significant environmental impact.

The Reserve Area has approximately 257.99 acres of Prime Farmland, 12.43 acres of Farmland of Statewide Importance, and 8.5 acres of Unique Farmland. This 278.92 acres of land would not be converted to non-agricultural uses under the proposed Project, and there is no direct impact to this land. However, at some future time, if the City determines that the Reserve area should be designated for urban development, then it would be anticipated that this land would be converted from agricultural to a non-agricultural use. The loss of this Important Farmland would be a significant

environmental impact. The proposed Project does not directly propose or cause the conversion of this land; however, the proposed Project may indirectly lead to a future conversion of this land.

Conversion of a portion of the Specific Plan Area (eastern portion) from largely agricultural uses to urban uses was analyzed in the City's General Plan EIR. As noted in Section 4.3 of the City's General Plan EIR, the loss of agricultural land to urbanization is considered permanent. While the City has incorporated all available mitigation for the loss of agricultural land in the form of General Plan policies and implementation strategies (i.e., Sustainable Agricultural Strategy), the extent of urban development under the General Plan inherently involves the conversion of high-quality agricultural land which is a significant and irreversible environmental impact.

Mitigation Measure 3.2-1 requires the Project applicant to conserve farmland in accordance with the City of Riverbank's Sustainable Agricultural Strategy. This requires conservation of equal value to the land that will be converted at a 1:1 ratio, in perpetuity, or pay in-lieu fees that would functionally achieve the conservation intent. The ratio is in alignment with recommendations from the Central Valley Farmland Trust (CVFT) for farmland mitigation. This mitigation strategy would require the land intended to be conserved to be equal or better than the land that is converted in terms of the quality of the soils, irrigation capability, size, and proximity of the land to the land that is converted. The land must be within Stanislaus County, and cannot already be encumbered. The mitigation for the permanent conservation of the land can be implemented through the purchase of agricultural conservation easements granted in perpetuity from a willing seller(s), enforceable deed restrictions, purchase of banked mitigation credits, or other conservation mechanisms acceptable to the City. This can be achieved by landowner/developer's working directly with an established farmland trust or similar organization, such as the Central Valley Farmland Trust, and providing certification satisfactory to the City that such lands have been permanently conserved in accordance with the performance standards for the mitigation.

Mitigation Measure 3.2-2 requires consistency with the Stanislaus LAFCo Agricultural Preservation policy, consistent with the City's Sustainable Agricultural Strategy. While the implementation of these mitigation measures would assist in offsetting some impacts from farmland conversion by preserving farmland, the proposed Project would still result in the permanent conversion and loss of 854.29 acres of Important Farmland within Stanislaus County. This is considered a ***significant and unavoidable*** impact regardless of the fact that measures have been incorporated to minimize the impact to the extent feasible. There are no feasible measures that would allow for the proposed Project to be developed according to the Goals and Objectives outlined in Section 2.0 Project Description, while mitigating the impact to an insignificant level.

MITIGATION MEASURE(S)

Mitigation Measure 3.2-1: *Prior to the issuance of grading permits, the Project applicant shall secure permanent protection of offsite farmland based on a 1:1 ratio to the amount of gross Farmland converted as a result of development, consistent with the requirements of the City's Sustainable Agricultural Strategy. The acreage requiring agricultural mitigation shall be equal to the portion of*

the site dedicated to residential uses which would be subject to the discretionary development entitlement and lands designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Permanent preservation shall consist of the purchase of agricultural conservation easements granted in perpetuity from willing seller(s), enforceable deed restrictions, purchase of banked mitigation credits, or other conservation mechanisms acceptable to the City. Land set aside for permanent preservation shall: (1) be of equal or better soil quality, have a dependable and sustainable supply of irrigation water, and be located within Stanislaus County; and (2) not be previously encumbered by a conservation easement of any nature.

The permanent protection of farmland shall be accomplished by either: (1) the landowner/developer working directly with an established farmland trust or similar organization, such as the Central Valley Farmland Trust, and providing certification satisfactory to the City that such lands have been permanently preserved at the specified ratio; or (2) working with a qualified land trust or similar organization, such as the Central Valley Farmland Trust, to establish a fee for agricultural land conservation easements.

Mitigation Measure 3.2-2: *Prior to the conversion of agricultural lands in the Specific Plan Area, the Project applicant shall participate in the Stanislaus LAFCo's Agricultural Preservation Policy (as amended on March 27, 2019), consistent with the City's Sustainable Agricultural Strategy. The Project applicant shall prepare a "Plan for Agricultural Preservation", which shall include information such as the Project's direct and indirect impacts to agricultural resources, the availability of other lands in the City of Riverbank's existing boundaries, and relevant General Plan policies. The Plan shall also specify the method or strategy proposed to minimize the loss of agricultural lands. The information provided in the Plan shall be consistent with the environmental documentation prepared by the City.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION:

The use of conservation easements is well-established under CEQA, though one court recently questioned their effectiveness as true mitigation. In both *Save Panoche Valley v. San Benito County* (2013) 217 Cal.App.4th 503, 528-529 (*Save Panoche Valley*) and *Masonite Corp. v. County of Mendocino* (2013) 218 Cal.App.4th 230, 237-241, the courts expressly held that the use of conservation easements to permanently preserve existing agricultural lands was a valid mitigation strategy under CEQA. In *Citizens for Open Government v. City of Lodi* (2012) 205 Cal.App.4th 296, 322-324, moreover, the court explicitly upheld as adequate mitigation a requirement that the applicant impose conservation easements on existing agricultural land at a ratio of one acre of conservation for every acre lost to development. The court rejected an attack on the EIR in that case that argued that a higher ratio of two to one should have been used. The court approvingly quoted the EIR, which had stated that "[t]he standard for California communities is the 1 for 1 ratio and is appropriate in this case." Notably, that EIR found that the impacts to agricultural land after mitigation would be significant and unavoidable, in recognition that the easements did not replace lost lands. This EIR takes the same approach, as was recommended in comments on the Notice of Preparation submitted by the California Department of Conservation.

It is notable, too, that for many years the courts have upheld the conservation of existing wildlife habitat as a valid mitigation strategy under CEQA. (See, e.g., *Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 278 [loss of habitat mitigated by conservation of other habitat at a one-to-one ratio]; *California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603, 610–611, 614–626 [mitigation for wetland losses by offsite preservation of two acres of existing habitat or the creation of one acre of new habitat for each acre of habitat impacted by the project]; *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 794 [mitigation by "off-site preservation of similar habitat"]; *Environmental Council of Sacramento v. City of Sacramento* (2006) 142 Cal.App.4th 1018, 1038 [purchase of a half-acre for habitat reserves for every acre of development].)

More recently, however, one Court of Appeal has questioned the effectiveness of conservation easements as mitigation for the loss of agricultural land. In *King & Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814, 872-875 (*King*), the court held that substantial evidence did not support the conclusion in an EIR that the use of conservation easements would mitigate the loss of agricultural land to a less than significant level. The court explained that "[e]ntering into a binding agricultural conservation easement does not create new agricultural land to replace the agricultural land being converted to other uses. Instead, an agricultural conservation easement merely prevents the future conversion of the agricultural land subject to the easement. Because the easement does not offset the loss of agricultural land (in whole or in part), the easement does not reduce a project's impact on agricultural land. The absence of any offset means a project's significant impact on agricultural land would remain significant after the implementation of the agricultural conservation easement." (*Id*. at p. 875.) Based on this reasoning, the court concluded that the mitigation measure in question "a does not provide effective mitigation for the conversion of agricultural land." (*Id*. at p. 876.)

The court did recognize, however, that laws and policies other than CEQA that required the use of conservation easements were legitimate expressions of the state or local police power. "'Although the developed farmland is not replaced, an equivalent area of comparable farmland is permanently protected from a similar fate. The additional protection of farmland that could otherwise soon be lost to residential development promotes the County's stated objective to conserve agricultural land for agricultural uses. Further, the requirement of rough proportionality between the mitigation measure and the impact of the development project is met. [Citation.] For every acre of farmland permanently lost to residential development another acre of farmland is permanently protected from residential development.'" (*Id*. at p. 875, quoting *Building Industry Assn. of Central California v. County of Stanislaus* (2010) 190 Cal.App.4th 582, 592.)

Here, as explained earlier, the use of conservation easements at a 1:1 ratio is recommended by the Central Valley Farmland Trust, is required by the City's Sustainable Agricultural Strategy, and is consistent with Stanislaus County's Farmland Mitigation Program. To obtain the necessary approvals needed from Stanislaus LAFCO, the Project will also have to comply with the Stanislaus LAFCo's Agricultural Preservation Policy. (See the discussion of Impact 3.10-2 in Section 3.10 [Land Use].) Thus, Mitigation Measures 3.2-1 and 3.2-2 are necessary to satisfy legal obligations originating

outside of CEQA. The City recognizes, however, that, as the court explained in the *King* decision, these measures do not create any new farmland to offset the loss of farmland attributable to the Project. For this reason, Impact 3.2-1 will remain ***significant and unavoidable*** after mitigation.

Impact 3.2-2: The proposed Project has the potential to conflict with existing zoning for agricultural use, or Williamson Act Contracts. (Less than Significant)

WILLIAMSON ACT CONTRACTS

The first seven parcels presented in Table 3.2-7 are designated as Reserve, and would be part of the SOI expansion only. Because these parcels would not be developed until after the Reserve area is planned and annexed or developed, there would be no need for cancelling the Williamson Act contracts. Any choice by the property owners of those parcels to remain under a contract, file a notice of non-renewal, or cancel the contract would be a voluntary decision. There is no indication from those property owners of any intent to change the status of their contracts, and there is no need for any of these actions because they will not be annexed under the proposed Project. As such, there would be no conflict with a Williamson act contract as it relates to these seven parcels.

The last two parcels listed in Table 3.2-7 (APNs 074-003-013, 074-003-014) have been under a Williamson Act contract since February 24, 1976. These two parcels are located within the southern portion of the Specific Plan Area and are proposed for annexation and development. This would potentially be a conflict, unless the contract was cancelled, expired, or determined to be "null and void".

As noted previously, the City of Riverbank filed a protest in January 1976 to the Stanislaus County Local Agency Formation Commission (LAFCo) for these two Williamson Act contracts pursuant to Section 51243.5 of the Government Code as it read at the time. After reviewing the protest, LAFCo found that the two parcels in question were in fact designated as "Urban Transition" and inconsistent with the publicly desirable future use and control of the land for the purposes set forth under the Williamson Act contract. On April 19, 1978, LAFCo adopted a resolution (Resolution 76-2397) upholding the City of Riverbank's protest for these two parcels. The legal effect as a result of LAFCo upholding the protest is that the Williamson Act "…contract becomes null and void as to the land actually being annexed on the date of annexation…" (See Opinion of John K. Van De Kamp, Attorney General, July 30, 1985 (No. 85-301) in response to a request for an opinion by Stanislaus County, County Counsel Michael H. Krausnick). (68 Ops. Cal. Atty. Gen. 204 (Cal.A.G.) (1985), 1985 WL 167482.)

In its current form, Government Code section 51243.5 will require Stanislaus LAFCo, at the time the annexation of the Specific Plan area is before that body, to consider whether the City of Riverbank may exercise its option *not* to succeed to the County's rights, duties, and powers under these two Williamson Act contracts. In other words, LAFCo will have to address whether these contracts will become null and void upon approval of the annexation. As set forth in the Regulatory Setting portion of this Section (3.2), subdivision (e) of section 51243.5 provides that the City will have the right to exercise its option if it can show the following:

(1) The land being annexed was within one mile of the city's boundary when the contract was executed.

(2) The city had filed with the local agency formation commission a resolution protesting the execution of the contract.

(3) The local agency formation commission had held a hearing to consider the city's protest to the contract.

(4) The local agency formation commission had found that the contract would be inconsistent with the publicly desirable future use and control of the land.

(5) The local agency formation commission had approved the city's protest.

The 1978 LAFCo resolution upholding the City of Riverbank's protest demonstrates that all five of these factors have been satisfied. Thus, at the time LAFCo considers annexation of the Specific Plan area to the City, LAFCo will be required to find that approval of the annexation would effectively render the two Williamson Acts "null and void." This outcome would ensure that there is no possibility of a conflict between the Specific Plan and the two contracts. Nor, as explained above, would the extension of the SOI into the Reserve Area create a conflict with the other nine Williamson Act contracts, as development in the Reserve Area is not currently reasonably foreseeable. For these reasons, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

AGRICULTURAL ZONING

The Project Area is currently within the jurisdiction of Stanislaus County. The County zoning for the Project Area is General Agriculture 40 Acre (A-2-40). The A-2-40 zone supports and enhances agriculture as the predominant land use in the unincorporated areas of the County. These district regulations are also intended to protect open-space lands pursuant to Government Code Section 65910.

Development of the Specific Plan Area to urban uses has been anticipated by the City since the approval of the General Plan and certification of the General Plan EIR. Stanislaus LAFCo will require the Specific Plan Area to be pre-zoned by the City of Riverbank in conjunction with the proposed annexation. The City's pre-zoning will include the City's Specific Plan (SP) zoning designation. The pre-zoning would go into effect upon annexation into the City of Riverbank. All other areas within the Project Area, but outside the Specific Plan Area, would maintain their existing County zoning A-2-40. The requested entitlements are designed to ensure that all land uses are zoned for consistency with their planned uses. This means that all land that would be annexed into the City of Riverbank would have zoning aligned to planned urban development, while all land outside the city limits would maintain their agricultural zoning. While the requested entitlements would result in a loss of agricultural zoning, approval of the entitlements would ensure that there are no conflicts with agricultural zoning. Implementation of the proposed project would result in a ***less than significant*** impact relative to this topic.

Impact 3.2-3: The proposed Project has the potential to result in conflicts with adjacent agricultural lands or indirectly cause conversion of agricultural lands. (Less Than Significant with Mitigation)

Neighboring agricultural land, including Prime Farmland and Unique Farmland, are located to the west, southwest, and south of the Project Area as shown on Figure 3.2-1. A variety of residential and commercial uses would be developed in the Project Area, specifically in the Specific Plan Area, with implementation of the proposed Project. The balance of the Project Area (i.e., those areas outside the Specific Plan Area) are not proposed to be developed.

Existing agricultural operations that are located adjacent to the Specific Plan Area may be adversely impacted by the increased human presence in the Specific Plan Area. Additionally, future residents within the Specific Plan Area may be adversely affected by active agricultural operations associated with managing these lands.

The City's Right to Farm Ordinance is intended to reduce the occurrence of such conflicts between nonagricultural and agricultural land uses within the City through requiring the transferor of any property in the City to provide a disclosure statement describing that the City permits agricultural operations, including those that utilize chemical fertilizers and pesticides. The notification procedures in the ordinance serves to inform landowners and developers of non-agricultural uses of what the expectations are in the area with regard to continued agricultural activities. This notification process is designed to reduce complaints and legal conflicts between existing agricultural operations and future residents.

Riverbank General Plan Policy CONS-3.2 states: *Ongoing agricultural practices on fertile lands in the western portion of the Riverbank Planning Area shall be protected from encroachment of urban use through the use of buffers. The buffers should also protect residential development from the effects of existing agricultural operations. The buffer shall be designed to protect the feasibility of ongoing agricultural activities on nearby lands and reduce the effects of noise, dust and the application of agricultural chemicals on residential development. The width of the buffer shall be 300 feet, except that the width of the buffer may be reduced where a project applicant demonstrates that a narrower buffer would protect the feasibility of ongoing agricultural activities on nearby lands and reduce the effects of noise, dust and the application of agricultural chemicals on residential development. Buffer areas may remain as open space or may be used for stormwater management; renewable energy production; community recreation amenities; or any other allowed use consistent with this policy.*

There is a significant amount of Buffer/Greenway/Open Space located along the western boundary of the Specific Plan Area. This was designed to provide a separation between existing agricultural uses to the west and future urban uses within the Planning Area. The width of this separation varies in length. There is approximately 150 ft. between existing agricultural operations located along Hogue Road near and Village O and Village M in the northern portion of the Plan Area. This area is narrower because there is a significant elevation separation as a result of the bluff, combined with the open space itself. There is approximately 1,000 feet between existing agricultural operations and Villages J, H, F E, located in the central and southern portion of the Plan Area. This is an adequate

separation to meet the 300' recommendation. There is no proposed separation between Village P and the adjacent agricultural property (orchard) located immediately west.

The General Plan addresses transitional areas between urban uses and ongoing agricultural operations with several land use designations that can serve as a buffer, including use of the Multi-Use Recreation/Resource Management (MUR/R), Agricultural resource Conservation Area (AG), and Reserve (R). For the proposed Project, the City has utilized the Reserve (R) designation as a buffer land use for all areas proximate to the proposed developed within the Plan Area. The areas with a Reserve designation would not be converted to non-agricultural uses under the proposed Project, instead they would be reserved under their agricultural use. If and when development is eventually proposed in the Reserve Area, land planners will have to consider whether to include buffers within the Reserve Area in order to avoid conflicts with land uses occurring within the Specific Plan area.

Patterson Road provides a buffer between the southern portion of the Plan Area and existing agricultural operations located to the south. The Stanislaus River provides a buffer between the northern portion of the Plan Area and existing agricultural operations located to the north. There are no agricultural uses requiring buffer to the east.

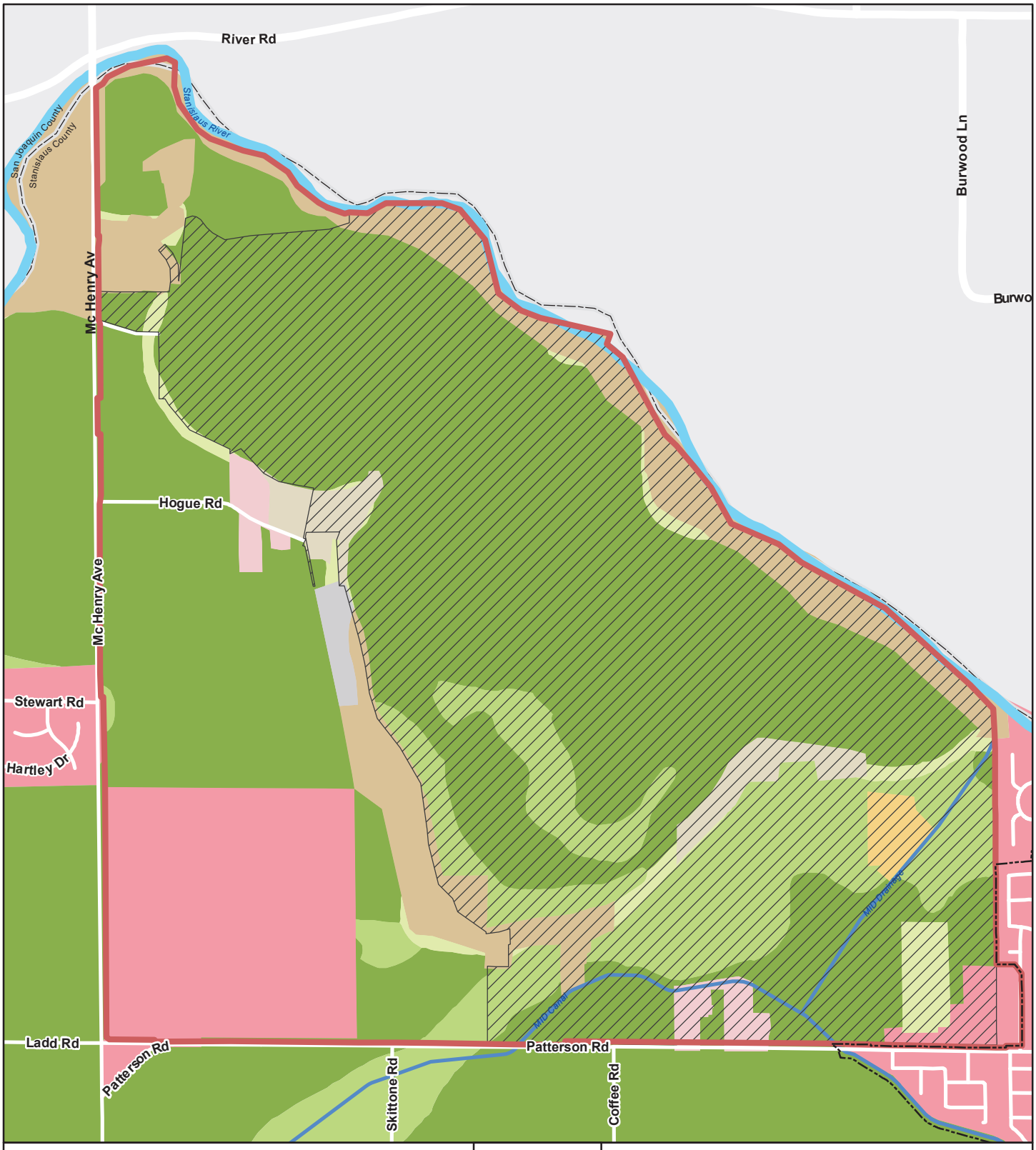
MITIGATION MEASURE(S)

Mitigation Measure 3.2-3: *Prior to approval of any Final Maps, "Right to Farm" language shall be incorporated on the Final Map for approval and recordation against the affected property. The proposed language shall contain the following statement: "All persons purchasing lots within the boundaries of this approved map should be prepared to accept the inconveniences associated with agricultural operations, such as noise, odors, flies, dust or fumes. Stanislaus County has determined that such inconveniences shall not be considered to be a nuisance if agricultural operations are consistent with accepted customs and standards."*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The Project design incorporates open space separations to try to separate proposed development from adjacent agricultural operations that would remain. Additionally, the design includes a designation of Reserve on all property immediately adjacent to the western boundary of the Plan Area as a transitional use and buffer. Riverbank General Plan Policy CONS-3.2 includes provisions for protecting agricultural operations from encroachment of urban use through the use of buffers. The buffers protect residential development from the effects of existing agricultural operations, and they are designed to protect the feasibility of ongoing agricultural activities on nearby lands (reduction in the effects of noise, dust and the application of agricultural chemicals on residential development). This existing policy requires the width of the buffer to be 300 feet, except that the width of the buffer may be reduced where a project applicant demonstrates that a narrower buffer would protect the feasibility of ongoing agricultural activities on nearby lands and reduce the effects of noise, dust and the application of agricultural chemicals on residential development. Buffer areas may remain as open space or may be used for stormwater management; renewable energy production; community recreation amenities; or any other allowed use consistent with this policy.

This existing policy provides mitigating effects on this potential impact, ensuring that the impact is ***less than significant***. Mitigation Measure 3.2-3 requires Right to Farm language be incorporated into the Final Map for approval and recordation against the affected property. With the implementation of Mitigation Measures 3.2-3, the proposed Project would not result in conflicts with adjacent agricultural lands would result in a ***less than significant*** impact regarding this topic.



Legend

- Project Area
- Specific Plan Area
- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Grazing Land
- Nonagricultural or Natural Vegetation
- Vacant or Disturbed Land
- Rural Residential Land
- Semi-agricultural and Rural Commercial Land
- Urban and Built-Up Land

N

0 500 1,000

Feet

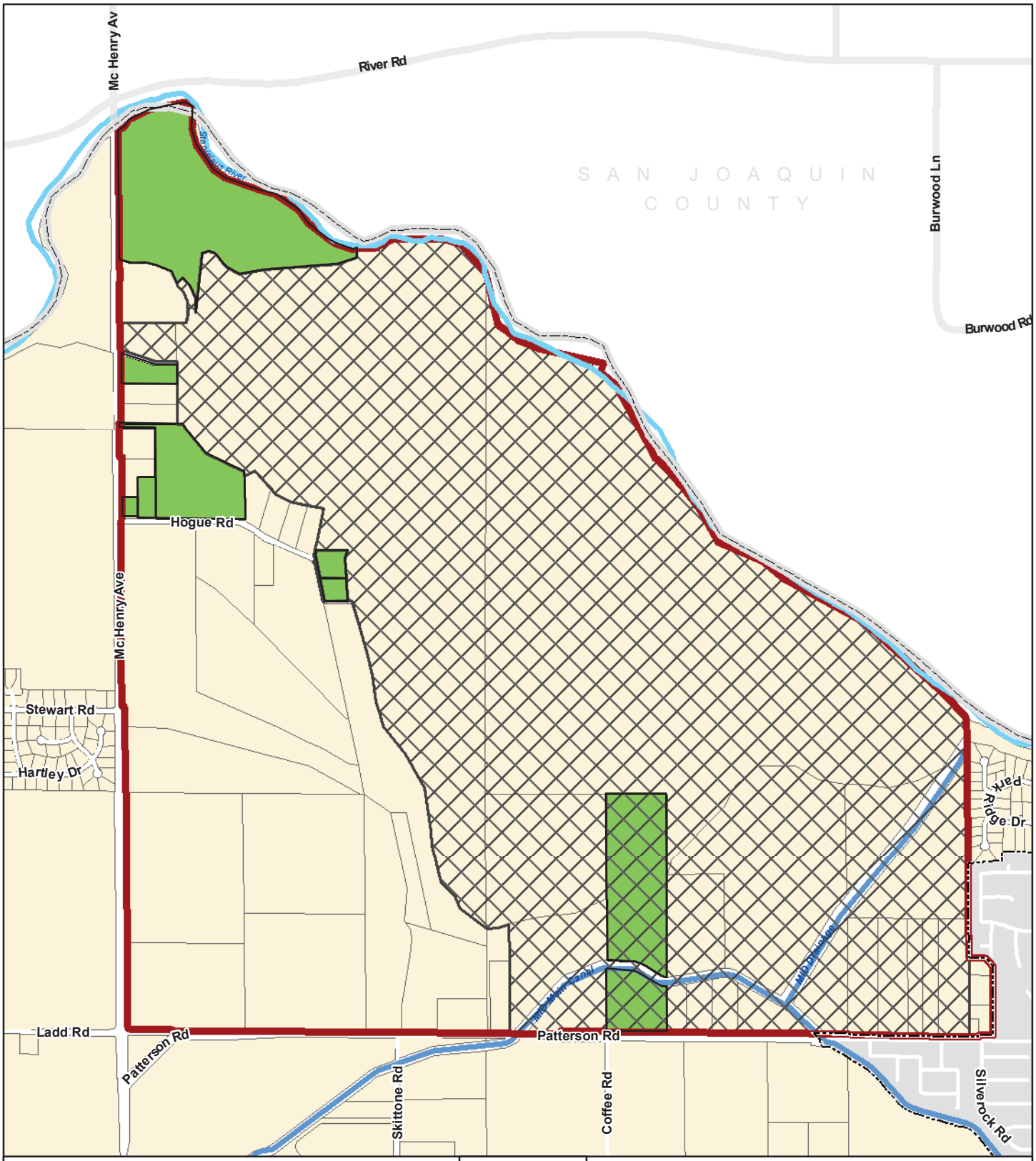
Sources: Stanislaus County GIS; California Department of Conservation, Farmland Mapping and Monitoring Program, Stanislaus County 20158. Map date: June 15, 2022. Revised May 24, 2025.

RIVERWALK SPECIFIC PLAN

Figure 3.2-1. Important Farmlands

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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Mc Henry Av
River Rd
Stanislaus River
SAN JOAQUIN COUNTY
Burwood Ln
Burwood Rd
Hogue Rd
McHenry Ave
Stewart Rd
Hartley Dr
Ridge Dr
Park
Ladd Rd
Patterson Rd
Patterson Rd
Skittone Rd
Coffee Rd
Silverrock Rd
Mid Drainage
Legend
Project Area
Specific Plan Area
City of Riverbank
County Boundary
Williamson Act Contracts - Mixed Enrollment Agricultural Land
Non-Contracted Parcels
N
0
500
1,000
Feet
Sources: Stanislaus County GIS; California Department of Conservation, Williamson Act Lands. Map date: January 29, 2021.
RIVER WALK SPECIFIC PLAN
Figure 3.2-2. Williamson Act Contracts
De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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This section describes the regional air quality, current attainment status of the air basin, local sensitive receptors, emission sources, and impacts that are likely to result from Project implementation. As discussed in Section 1.0 Introduction, this EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. The program-level analysis considers the broad environmental effects of the proposed project as a whole. However, Section 1.0 also indicates that a component of the proposed Project includes a Specific Plan that provides a very high level of design detail for certain components of the proposed Project. To the extent that sufficient detail is available, a full project-level analysis is provided in this section of the EIR. Because an Air Quality analysis is driven by the number of units and square footage of development, the Specific Plan land use design and development projections allow for detailed quantitative analysis to be provided in this analysis. Such an analysis is at a project-level. The areas outside the Specific Plan Area, but within the SOI Expansion Area, lack design details at this time, and will require a specific quantitative analysis when that area undergoes a long-range planning effort by the City and property owners. As such, this analysis is at a program-level for those areas.

This section is based in part on the following technical studies: *Air Quality and Land Use Handbook: A Community Health Perspective* (California Air Resources Board [CARB], 2005), *Guide for Assessing and Mitigation Air Quality Impacts* (San Joaquin Valley Air Pollution Control District [SJAVPCD], 2002), *Guidance for Assessing and Mitigating Air Quality Impacts - 2015* (SJAVPCD, 2015), and CalEEMod *(v.2022.1)*.

Seven comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the Denny Jackman (June 28, 2021), San Joaquin Air Pollution Control District (June 30, 2021), City of Modesto (July 2, 2021), Jean Ferrari (July 4, 2021), Betsy Watson (July 5, 2021), Evelyn Halbert (July 5, 2021), Soluri Meserve (July 6, 2021). The SJVAPCD commenter pointed out that the SJVAPCD has the *Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI)* (March 19, 2015) as a technical guidance for the review of air quality impacts from proposed projects within the boundaries of the District. Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A. The Greenhouse Gases and Climate Change analysis is in a separate section of this document.

3.3.1 ENVIRONMENTAL SETTING

SAN JOAQUIN VALLEY AIR BASIN

Stanislaus County is in the southern portion of the San Joaquin Air Basin (SJVAB). The SJVAB consists of eight counties: Fresno, Kern (western and central), Kings, Tulare, Madera, Merced, San Joaquin, and Stanislaus. Air pollution from significant activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. These sources, coupled with geographical and meteorological conditions unique to the area, stimulate the formation of unhealthy air.

The SJVAB is approximately 250 miles long and an average of 35 miles wide. It is bordered by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi Mountains in the south. There is a slight downward elevation gradient from Bakersfield in the southeast end (elevation 408 feet) to sea level at the northwest end where the valley opens to the San Francisco Bay at the

Carquinez Straits. At its northern end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The bowl-shaped topography inhibits movement of pollutants out of the valley (San Joaquin Valley Air Pollution Control District (SJVAPCD), 2015).

Climate

The SJVAB is in a Mediterranean climate zone and is influenced by a subtropical high-pressure cell most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the valley.

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface. Any emissions of pollutants can be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500 to 3,000 feet).

Winter-time high pressure events can often last many weeks, with surface temperatures often lowering into the 30°F. During these events, fog can be present and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet (SJVAPCD, 2015).

Wind Patterns

Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing and transporting it to other locations.

Especially in summer, winds in the San Joaquin Valley most frequently blow from the northwest. The region's topographic features restrict air movement and channel the air mass towards the southeastern end of the valley. Marine air can flow into the basin from the San Joaquin River Delta and over Altamont Pass and Pacheco Pass, where it can flow along the axis of the valley, over the Tehachapi Pass, into the Southeast Desert Air Basin. This wind pattern contributes to transporting pollutants from the Sacramento Valley and the Bay Area into the SJVAB. Approximately 27 percent of the total emissions in the northern portion, 11 percent of total emissions in the central region, and 7 percent of total emission in the south valley of the SJVAB are attributed to air pollution transported from these two areas.[1] The Coastal Range is a barrier to air movement to the west and the high Sierra Nevada Range is a significant barrier to the east (the highest peaks in the southern Sierra Nevada reach almost halfway through the Earth's atmosphere). Many days in the winter are marked by stagnation events where winds are very weak. Transport of pollutants during winter can be very limited. A secondary but significant summer wind pattern is from the southeast and can be associated with nighttime drainage winds, prefrontal conditions, and summer monsoons.

[1] SJVAPCD. Frequently Asked Questions, http://www.valleyair.org/general_info/frequently_asked_questions.htm#What%20is%20being%20done%20to%20improve%20ai r%20quality%20in%20the%20San%20Joaquin%20Valley, accessed December 3, 2021.

Two significant diurnal wind cycles that occur frequently in the valley are the sea breeze and mountain-valley upslope and drainage flows. The sea breeze can accentuate the northwest wind flow, especially on summer afternoons. Nighttime drainage flows can accentuate the southeast movement of air down the valley. In the mountains during periods of weak synoptic scale winds, winds tend to be upslope during the day and downslope at night. Nighttime and drainage flows are especially pronounced during the winter when flow from the easterly direction is enhanced by nighttime cooling in the Sierra Nevada. Eddies can form in the valley wind flow and can recirculate a polluted air mass for an extended period.

Temperature

Solar radiation and temperature are particularly important in the chemistry of ozone formation. The SJVAB averages over 260 sunny days per year. Photochemical air pollution (primarily ozone) is produced by the atmospheric reaction of organic substances (such as volatile organic compounds) and nitrogen dioxide under the influence of sunlight. Ozone concentrations are very dependent on the amount of solar radiation, especially during late spring, summer, and early fall. Ozone levels typically peak in the afternoon. After the sun goes down, the chemical reaction between nitrous oxide and ozone begins to dominate. This reaction tends to scavenge and remove the ozone in the metropolitan areas through the early morning hours, resulting in the lowest ozone levels, possibly reaching zero at sunrise in areas with high nitrogen oxides emissions. At sunrise, nitrogen oxides tend to peak, partly due to low levels of ozone currently and due to the morning commuter vehicle emissions of nitrogen oxides.

Generally, the higher the temperature, the more ozone formed, since reaction rates increase with temperature. However, extremely hot temperatures can “lift” or “break” the inversion layer. Typically, if the inversion layer does not lift to allow the buildup of contaminants to be dispersed, the ozone levels will peak in the late afternoon. If the inversion layer breaks and the resultant afternoon winds occur, the ozone will peak in the early afternoon and decrease in the late afternoon as the contaminants are dispersed or transported out of the SJVAB.

Ozone levels are low during winter periods when there is much less sunlight to drive the photochemical reaction (SJVAPCD, 2015).

Precipitation, Humidity, and Fog

Precipitation and fog may reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog can block the required solar radiation. Wet fogs can cleanse the air during winter as moisture collects on particles and deposits them on the ground. Atmospheric moisture can also increase pollution levels. In fogs with less water content, the moisture acts to form secondary ammonium nitrate particulate matter. This ammonium nitrate is part of the valley’s $PM_{2.5}$ and PM_{10} problem. The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the SJVAB floor. This creates strong low-level temperature inversions and very stable air conditions, which can lead to tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of $PM_{2.5}$ and PM_{10} (SJVAPCD, 2015).

Inversions

The vertical dispersion of air pollutants in the San Joaquin Valley can be limited by persistent temperature inversions. Air temperature in the lowest layer of the atmosphere typically decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. The height of the base of the inversion is known as the "mixing height." This is the level to which pollutants can mix vertically. Mixing of air is minimized above and below the inversion base. The inversion base represents an abrupt density change where little air movement occurs.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor (SJVAPCD, 2015).

CRITERIA POLLUTANTS

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (U.S. EPA) uses six "criteria pollutants" as indicators of air quality and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). In addition, California establishes ambient air quality standards, called California Ambient Air Quality Standards (CAAQS). California law does not require that the CAAQS be met by a specified date as is the case with NAAQS.

The ambient air quality standards for the six criteria pollutants (as shown in Table 3.3-1) are set to protect public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six primary criteria pollutants generated by the Project are discussed below.

Ozone (O_3) is a photochemical oxidant and the major component of smog. While O_3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O_3 at ground level are a major health and environmental concern. O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (ROG) and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O_3 levels occur typically during the warmer times of the year. Both ROGs and NO_x are emitted by transportation and industrial sources. ROGs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents. Relatedly, reactive organic compounds (ROG) are defined as the subset of ROGs that are reactive enough to contribute substantially to atmospheric photochemistry.

The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function, and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. EPA, 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. EPA, 2019b). The average background level of ozone in California and Nevada is approximately 48.3 parts per billion, which represents approximately 77 percent of the total ozone in the western region of the U.S. (NASA, 2015).

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. O_3 can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects to ambient CO (CARB, 2021d).

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (U.S.

EPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels increases the risk of such incidences.

Nitrogen oxides (NO_x) is a brownish, highly reactive gas that is present in all urban atmospheres. The main effect of increased NO_2 is the increased likelihood of respiratory problems. Under ambient conditions, NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O_3) and acid rain and may affect both terrestrial and aquatic ecosystems. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2.

The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO_x). NO_x plays a major role, together with ROGs, in the atmospheric reactions that produce O_3. NO_x forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO_2) is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of SO_2 emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities. SO_2 is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

SO_2 affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children, and the elderly. SO_2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings, and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills and from nonferrous smelters.

Short-term exposure to ambient SO_2 has been associated with various adverse health effects. Multiple human clinical studies, epidemiological studies, and toxicological studies support a causal relationship between short-term exposure to ambient SO_2 and respiratory morbidity. The observed health effects include decreased lung function, respiratory symptoms, and increased emergency department visits and hospitalizations for all respiratory causes. These studies further suggest that people with asthma are potentially susceptible or vulnerable to these health effects. In addition, SO_2 reacts with other air pollutants to form sulfate particles, which are constituents of fine particulate matter ($PM_{2.5}$). Inhalation exposure to $PM_{2.5}$ has been associated with various cardiovascular and respiratory health effects (U.S. EPA, 2017). Increased ambient SO_2 levels would lead to increased risk of such effects.

SO_2 emissions that lead to high concentrations of SO_2 in the air generally also lead to the formation of other sulfur oxides (SOx). SOx can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems.

Particulate matter (PM) includes dust, dirt, soot, smoke, and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires, and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO_2 and ROGs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: PM_{10} is particulate matter 10 micrometers or less in diameter (known as respirable particulate matte*r*), and $PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter (known as fine particulate matter).

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis, and premature death. Small particulate pollution causes health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed.

Respirable particulate matter (PM_{10}) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural activities (as created by soil preparation activities, fertilizer, and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10} causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

$PM_{2.5}$ consists of fine particles, which are less than 2.5 microns in size. Like PM_{10}, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM_{10}, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the U.S. EPA created new Federal air quality standards for $PM_{2.5}$.

Although neither the U.S. EPA nor the California air districts have provided any thresholds for ultrafine particles (UFPs) (defined as fine particles of less than 0.1 microns in size, or $PM_{0.1}$), it should be noted that such particles may have the potential for even greater health effects than PM_{10} or $PM_{2.5}$, due to their even smaller sizes. UFPs are primarily generated by motor vehicle emissions (especially from diesel engines), braking, and tire wear. Specifically, UFPs are comprised mostly of metals that are known constituents of brake pads and drums, as well as additives in motor oil. Generally, all engines can create UFPs, but especially diesel engines, and any vehicle's braking

system; traffic, particularly start-and-stop, generates UFPs.[2] Recent research suggests that UFPs pose considerable health risks, similar to but tending to be more severe than PM_{10} and $PM_{2.5}$, such as increased risk of cardiovascular disease and ischemic heart disease death rates, and loss of lung function.[3] Furthermore, unlike diesel exhaust or other larger TAC emissions, UFPs are more persistent and do not dissipate easily over distances.[4]

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly, and children. Particulate matter also impacts soils and damages materials and is a major cause of visibility impairment.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. EPA, 2019c).

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil, or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. Excessive Pb exposure can cause seizures, mental retardation and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in

[2] Aerosol Science and Technology. 2011. Thomas A. Cahill, David E. Barnes, Nicholas J. Spada, Jonathan A. Lawton, and Thomas M. Cahill. Very Fine and Ultrafine Metals and Ischemic Heart Disease in the California Central Valley 1: 2003-2007. July 13, 2011.

[3] Atmospheric Environment. 2016. Thomas A. Cahill, David E. Barnes, Leann Wuest, David Gribble, David Buscho, Roger S. Miller, Camille De la Croix. Artificial Ultra-fine Aerosol Tracers for Highway Transect Studies. April 7, 2016;

Aerosol Science and Technology. 2011. Thomas A. Cahil, David E. Barnes, Earl Withycombe, & Mitchell Watnik, and DELTA Group. Very Fine and Ultrafine Metals and Ischemic Heart Disease in the California Central Valley 1: 1974-1991. July 13, 2011.

[4] Atmospheric Environment. 2016. Transition Metals in Coarse, Fine, Very Fine and Ultra-fine Particles from an Interstate Highway Transect Near Detroit. September 12, 2016.

decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

Lead exposure is typically associated with industrial sources; major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters. As a result of the U.S. EPA's regulatory efforts, including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014 (U.S. EPA, 2019d). Based on this reduction of lead in the air over this period, and since most new developments do not generate an increase in lead exposure, the health impacts of ambient lead levels are not typically monitored by the California Air Resources Board (CARB).

AMBIENT AIR QUALITY STANDARDS

Both the U.S. EPA and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and State ambient air quality standards are summarized in Table 3.3-1 for important pollutants. The federal and State ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and State standards differ in some cases. In general, the California standards are more stringent. This is particularly true for ozone, $PM_{2.5}$, and PM_{10}. The U.S. EPA signed a final rule for the federal ozone eight-hour standard of 0.070 ppm on October 1, 2015, and was effective as of December 28, 2015 (equivalent to the California state ambient air quality eight-hour standard for ozone).

TABLE 3.3-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour 8-Hour	-- 0.070 ppm	0.09 ppm 0.070 ppm
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.053 ppm 0.100 ppm	0.03 ppm 0.18 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm 0.075 ppm	-- 0.04 ppm 0.25 ppm
PM_{10}	Annual 24-Hour	-- 150 ug/m^3	20 ug/m^3 50 ug/m^3
$PM_{2.5}$	Annual 24-Hour	12 ug/m^3 35 ug/m^3	12 ug/m^3 --
Lead	30-Day Avg. 3-Month Avg.	-- 0.15 ug/m^3	1.5 ug/m^3 --

NOTES: PPM = PARTS PER MILLION, UG/M3 = MICROGRAMS PER CUBIC METER

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2021A.

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less ($PM_{2.5}$) were adopted for 24-hour and annual averaging periods. The existing PM_{10} standards were retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated based on risk rather than specification of safe levels of contamination.

Existing air quality concerns within the County and the entire air basin are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, carbon monoxide, and nitrogen dioxide as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

The County has a State designation Attainment or Unclassified for all criteria pollutants except for ozone, PM_{10} and $PM_{2.5}$. Stanislaus County has a national designation of either Unclassified or Attainment for all criteria pollutants except for Ozone and $PM_{2.5}$. Table 3.3-2 presents the state and nation attainment status for Stanislaus County.

TABLE 3.3-2: STATE AND NATIONAL ATTAINMENT STATUS IN STANISLAUS COUNTY

CRITERIA POLLUTANTS	STATE DESIGNATIONS	NATIONAL DESIGNATIONS
Ozone (O_3)	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	Attainment	Unclassified/Attainment
Sulfates	Attainment	
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	
Visibility Reducing Particles	Unclassified	

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2021B.

Stanislaus County Air Quality Monitoring

The San Joaquin Valley Air Pollution District (SJVAPCD) and the CARB maintain air quality monitoring sites throughout Stanislaus County that collect data for ozone and $PM_{2.5}$. In addition, air quality monitoring sites for PM_{10} are located throughout the San Joaquin Valley (though not in Stanislaus County). It is important to note that while the State retains the one-hour standard, the federal ozone 1-hour standard was revoked by the U.S. EPA and is no longer applicable for federal standards. Best available data obtained from the monitoring sites between 2017 and 2020 (latest year of data available) is shown in Table 3.3-3, Table 3.3-4, and Table 3.3-5.

TABLE 3.3-3 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (STANISLAUS COUNTY) - OZONE

YEAR	DAYS > STANDARD				1-HOUR OBSERVATIONS			8-HOUR AVERAGES				YEAR COVERAGE	
	STATE		NATIONAL			STATE	NAT'L	STATE		NATIONAL			
	1-HR	8-HR	1-HR	8-HR	MAX.	D.V.[1]	D.V.[2]	MAX.	D.V.[1]	MAX.	D.V.[2]	MIN	MAX
2020	4	14	0	14	0.104	0.10	0.101	0.087	0.088	0.086	0.080	96	99
2019	1	15	0	14	0.102	0.10	0.103	0.083	0.091	0.083	0.082	97	99
2018	7	30	0	27	0.108	0.10	0.103	0.096	0.091	0.095	0.084	99	99

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. THE NATIONAL 1-HOUR OZONE STANDARD WAS REVOKED IN JUNE 2005 AND IS NO LONGER IN EFFECT. STATISTICS RELATED TO THE REVOKED STANDARD ARE SHOWN IN ITALICS. D.V. [1]= STATE DESIGNATION VALUE. D.V. [2]= NATIONAL DESIGN VALUE.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

TABLE 3.3-4: AMBIENT AIR QUALITY MONITORING DATA SUMMARY (SAN JOAQUIN VALLEY) – PM_{10}

YEAR	EST. DAYS > STD.		ANNUAL AVERAGE		HIGH 24-HR AVERAGE		YEAR COVERAGE
	NAT'L	STATE	NAT'L	STATE	NAT'L	STATE	
2020	38.7	157.0	64.5	60.5	517.2	359.0	0 – 1002.40
2019	16.2	129.7	55.6	55.6	652.2	664.2	0 – 100
2018	9.6	164.4	54.5	53.0	250.2	250.4	0 – 100

NOTES: THE NATIONAL ANNUAL AVERAGE PM_{10} STANDARD WAS REVOKED IN DECEMBER 2006 AND IS NO LONGER IN EFFECT. AN EXCEEDANCE IS NOT NECESSARILY A VIOLATION. STATISTICS MAY INCLUDE DATA THAT ARE RELATED TO AN EXCEPTIONAL EVENT. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. NATIONAL STATISTICS ARE BASED ON STANDARD CONDITIONS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR

CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. ND=THERE WAS INSUFFICIENT (OR NO) DATA AVAILABLE TO DETERMINE THE VALUE.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

TABLE 3.3-5 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (STANISLAUS COUNTY) - $PM_{2.5}$

YEAR	EST. DAYS > NAT'L '06 STD.	ANNUAL AVERAGE		NAT'L ANN. STD. D.V.[1]	STATE ANNUAL D.V.[2]	NAT'L '06 STD. 98TH PERCENTILE	NAT'L '06 24-HR STD. D.V.[1]	HIGH 24-HOUR AVERAGE		YEAR COVERAGE	
		NAT'L	STATE					NAT'L	STATE	MIN	MAX
2020	31.0	15.5	15.6	14.5	17	86.9	71	118.5	118.5	97	97
2019	8.3	10.6	10.6	13.5	17	36.0	60	40.7	40.7	92	98
2018	25.7	17.2	17.2	14.2	17	100.4	63	189.8	189.8	96	98

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. D.V. [1] = STATE DESIGNATION VALUE. D.V. [2]= NATIONAL DESIGN VALUE

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

ODORS

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory, and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals can smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches

a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals, and schools. The closest sensitive receptors to the Specific Plan Area include existing residences located within the Specific Plan Area itself.

3.3.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The U.S. EPA is responsible for administering the FCAA. The FCAA requires the U.S. EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and $PM_{2.5}$ ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

NAAQS standards have been designed to accurately reflect the latest scientific knowledge and are reviewed every five years by a Clean Air Scientific Advisory Committee (CASAC), consisting of seven members appointed by the U.S. EPA Administrator. Reviewing NAAQS is a lengthy undertaking and includes the following major phases: Planning, Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), Policy Assessment (PA), and Rulemaking. The process starts with a comprehensive review of the relevant scientific literature. The literature is summarized and

conclusions are presented in the ISA. Based on the ISA, U.S. EPA staff perform a risk and exposure assessment, which is summarized in the REA document. The third document, the PA, integrates the findings and conclusions of the ISA and REA into a policy context, and provides lines of reasoning that could be used to support retention or revision of the existing NAAQS, as well as several alternative standards that could be supported by the review findings. Each of these three documents are released for public comment and public peer review by the CASAC. Members of CASAC are appointed by the U.S. EPA Administrator for their expertise in one or more of the subject areas covered in the ISA. The CASAC's role is to peer review the NAAQS documents, ensure that they reflect the thinking of the scientific community, and advise the Administrator on the technical and scientific aspects of standard setting. Each document goes through two to three drafts before CASAC deems it to be final.

Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations, and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. NAAQS standards were last revised for each of the six criteria pollutant as listed below, with detail on what aspects of NAAQS changed during the most recent update:

- Ozone: On October 1, 2015, the U.S. EPA lowered the national eight-hour standard from 0.075 ppm to 0.070 ppm, providing for a more stringent standards consistent with the current California state standard.
- CO: In 2011, the primary standards were retained from the original 1971 level, without revision. The secondary standards were revoked in 1985.
- NO_2: The national NO_2 standard was most recently revised in 2010 following an exhaustive review of new literature pointed to evidence for adverse effects in asthmatics at lower NO_2 concentrations than the existing national standard.
- SO_2: On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99^{th} percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb.
- PM: the national annual average $PM_{2.5}$ standard was most recently revised in 2012 following an exhaustive review of new literature pointed to evidence for increased risk of premature mortality at lower $PM_{2.5}$ concentrations than the existing standard.
- Lead: The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. In 2016, the primary and secondary standards were retained.

The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc. are needed to have full comprehension of the local pollution control problems. As a result, the U.S. EPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. The CARB is the state agency that is responsible for preparing the California SIP.

Transportation Control Measures

One aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

STATE

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the State. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Towards this end, the CARB has adopted regulations which require auto manufacturers to phase in less polluting vehicles.

California Clean Air Act

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The CARB is the agency responsible for administering the CCAA. The CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are like the federal standards.

California Air Quality Standards

Although NAAQS are determined by the U.S. EPA, states can set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates, and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations, and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.3-1.

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The

recommendation can be for no change, or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. The ARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

In June of 2002, the CARB adopted revisions to the PM_{10} standard and established a new $PM_{2.5}$ annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006 and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

Tanner Air Toxics Act (TACs)

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted U.S. EPA's list of hazardous air pollutants (HAPs) as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technologies (BACT) to minimize emissions.

AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, CARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule.

Omnibus Low-NOx Rule

The CARB approved the Omnibus Low-NOx Rule on August 28, 2020, which will require engine NOx emissions to be cut to approximately 75% below current standards beginning in 2024, and 90% below current standards in 2027. The rule also places nine additional regulatory requirements on new heavy-duty truck and engines. Those additional requirements include a 50% reduction in particulate matter emissions, stringent new low-load and idle standards, a new in-use testing protocol, extended deterioration requirements, a new California-only credit program, and extended mandatory warranty requirements. The regulatory requirements in the Omnibus Low-NOX Rule will first become effective in 2024, at the same time as the Advanced Clean Trucks regulations that CARB approved that mandate that manufacturers convert increasing percentages of their heavy-duty trucks sold in California to zero-emission vehicles.

Assembly Bill 170

Assembly Bill 170, Reyes (AB 170), was adopted by state lawmakers in 2003, creating Government Code Section 65302.1, which requires cities and counties in the San Joaquin Valley to amend their general plans to include data and analysis, comprehensive goals, policies, and feasible implementation strategies designed to improve air quality. The elements to be amended include, but are not limited to, those elements dealing with land use, circulation, housing, conservation, and open space. Section 65302.1.c identifies four areas of air quality discussion required in these amendments:

- A report describing local air quality conditions, attainment status, and state and federal air quality and transportation plans;
- A summary of local, district, state, and federal policies, programs, and regulations to improve air quality;
- A comprehensive set of goals, policies, and objectives to improve air quality; and
- Feasible implementation measures designed to achieve these goals.

LOCAL

San Joaquin Valley Air Pollution Control District

The primary role of SJVAPCD is to develop plans and implement control measures in the SJVAB to control air pollution. These controls primarily affect stationary sources such as industry and power plants. Rules and regulations have been developed by SJVAPCD to control air pollution from a wide range of air pollution sources. SJVAPCD also provides uniform procedures for assessing potential air quality impacts of proposed projects and for preparing the air quality section of environmental documents.

AIR QUALITY PLANNING

The U.S. EPA requires states that have areas that do not meet the National AAQS to prepare and submit air quality plans showing how the National AAQS will be met. If the states cannot show how the National AAQS will be met, then the states must show progress toward meeting the National

AAQS. These plans are referred to as the State Implementation Plans (SIP). California's adopted 2007 State Strategy was submitted to the U.S. EPA as a revision to its SIP in November 2007.[5] More recently, in October 2018, the CARB adopted the 2018 Updates to the California State Implementation Plan.

In addition, the CARB requires regions that do not meet California AAQS for ozone to submit clean air plans (CAPs) that describe measures to attain the standard or show progress toward attainment. To ensure federal CAA compliance, SJVAPCD is currently developing plans for meeting new National AAQS for ozone and $PM_{2.5}$ and the California AAQS for PM_{10} in the SJVAB (for California CAA compliance)[6] The following describes the air plans prepared by the SJVAPCD, which are incorporated by reference per CEQA Guidelines Section 15150.

1-HOUR OZONE PLAN

Although U.S. EPA revoked its 1979 1-hour ozone standard in June 2005, many planning requirements remain in place, and SJVAPCD must still attain this standard before it can rescind CAA Section 185 fees. The SJVAPCD's most recent 1-hour ozone plan, the 2013 Plan for the Revoked 1-hour Ozone Standard, demonstrated attainment of the 1-hour ozone standard by 2017. However, on July 18, 2016, the U.S. EPA published in the Federal Register a final action determining that SJVAB has attained the 1-hour ozone NAAQS based on the 2012 to 2014 three-year period allowing nonattainment penalties to be lifted under federal Clean Air Act section 179b (SJVAPCD, 2015).

8-HOUR OZONE PLAN

The SJVAPCD's Governing Board adopted the 2007 Ozone Plan on April 30, 2007. This far-reaching plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard as set by U.S. EPA in 1997. The plan projects that the valley will achieve the 8-hour ozone standard for all areas of the SJVAB no later than 2023. The CARB approved the plan on June 14, 2007. The U.S. EPA approved the 2007 Ozone Plan effective April 30, 2012. SJVAPCD adopted the 2016 Ozone Plan to address the federal 2008 8-hour ozone standard, which must be attained by end of 2031.[7,8]

PM_{10} PLAN

Based on PM_{10} measurements from 2003 to 2006, the U.S. EPA found that the SJVAB has reached federal PM_{10} standards. On September 21, 2007, the SJVAPCD's Governing Board adopted the 2007 PM_{10} Maintenance Plan and Request for Redesignation. This plan demonstrates that the valley will

[5] Note that the plan was adopted by CARB on September 27, 2007; California Air Resources Board. 2007. California Air Resources Board's Proposed State Strategy for California's 2007 State Implementation Plan.

[6] SJVAPCD, 2012. 2012 $PM_{2.5}$ Plan.

[7] SJVAPCD. Ozone Plans. http://www.valleyair.org/ Air_Quality_Plans/Ozone_Plans.htm, accessed December 3, 2021.

[8] SJVAPCD. 2016 Plan for the 2008 8-Hour Ozone Standard, http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm, accessed December 3, 2021.

continue to meet the PM_{10} standard. U.S. EPA approved the document and on September 25, 2008, the SJVAB was redesignated to attainment/maintenance (SJVAPCD, 2015).

PM2.5 PLAN

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018.[9] This plan addresses the U.S. EPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable (SJVAPCD, 2020).

All the above-referenced plans include measures (i.e., federal, state, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the SJVAB. Transportation control measures are part of these plans.

SJVAPCD RULES AND REGULATIONS

SJVAPCD Indirect Source Review

On December 15, 2005, SJVAPCD adopted the Indirect Source Review Rule (ISR or Rule 9510) to reduce ozone precursors (i.e., ROG and NOx) and PM_{10} emissions from new land use development projects. Specifically, Rule 9510 targets the indirect emissions from vehicles and construction equipment associated with these projects and applies to both construction and operational-related impacts. The rule applies to any applicant that seeks to gain a final discretionary approval for a development project, or any portion thereof, which upon full buildout would include any one of the following:

- 50 residential units.
- 2,000 square feet of commercial space.
- 25,000 square feet of light industrial space.
- 100,000 square feet of heavy industrial space.
- 20,000 square feet of medical office space.
- 39,000 square feet of general office space.
- 9,000 square feet of educational space.
- 10,000 square feet of government space.
- 20,000 square feet of recreational space.
- 9,000 square feet of space not identified above.
- Transportation/transit projects with construction exhaust emissions of two or more tons of NOx or two or more tons of PM_{10}.
- Residential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, regardless of the number of tract maps, and has the capability of accommodating more than 50 residential units.

[9] SJVAPCD. Particulate Matter Plans. http://valleyair.org/Air_Quality_Plans/PM_Plans.htm, accessed March 9, 2020.

- Nonresidential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, and has the capability of accommodating development projects that emit two or more tons per year of NOx or PM_{10} during project operations.

The rule requires all subject, nonexempt projects to mitigate both construction and operational period emissions by (1) applying feasible SJVAPCD-approved mitigation measures, or (2) paying any applicable fees to support programs that reduce emissions. Off-site emissions reduction fees (off-site fee) are required for projects that do not achieve the required emissions reductions through on-site emission reduction measures. Phased projects can defer payment of fees in accordance with an Off-site Emissions Reduction Fee Deferral Schedule (FDS) approved by the SJVAPCD.

To determine how an individual project would satisfy Rule 9510, each project would submit an air quality impact assessment (AIA) to the SJVAPCD as early as possible, but no later than prior to the project's final discretionary approval, to identify the project's baseline unmitigated emissions inventory for indirect sources: on-site exhaust emissions from construction activities and operational activities from mobile and area sources of emissions (excludes fugitive dust and permitted sources). Rule 9510 requires the following reductions, which are levels that the SJVAPCD has identified as necessary, based on their air quality management plans, to reach attainment for ozone and particulate matter:

Construction Equipment Emissions

The exhaust emissions for construction equipment greater than 50 horsepower (hp) used or associated with the development project shall be reduced by the following amounts from the statewide average as estimated by CARB:

- 20 percent of the total NOx emissions
- 45 percent of the total PM_{10} exhaust emissions

Mitigation measures may include those that reduce construction emissions on-site by using less polluting construction equipment, which can be achieved by utilizing add-on controls, cleaner fuels, or newer, lower emitting equipment.

Operational Emissions

- NOx Emissions. Applicants shall reduce 33.3 percent of the project's operational baseline NOx emissions over a period of 10 years as quantified in the approved AIA.
- PM_{10} Emissions. Applicants shall reduce of 50 percent of the project's operational baseline PM_{10} emissions over a period of 10 years as quantified in the approved AIA.

These requirements listed above can be met through any combination of on-site emission reduction measures. If a project cannot achieve the above standards through imposition of mitigation measures, then the project would be required to pay the applicable off-site fees. These fees are used to fund various incentive programs that cover the purchase of new equipment, engine retrofit, and education and outreach.

Fugitive PM_{10} Prohibitions

SJVAPCD controls fugitive PM_{10} through Regulation VIII, Fugitive PM_{10} Prohibitions. The purpose of this regulation is to reduce ambient concentrations of PM_{10} and $PM_{2.5}$ by requiring actions to prevent, reduce, or mitigate anthropogenic (human caused) fugitive dust emissions.

- Regulation VIII, Rule 8021 applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on-site, and travel on access roads to and from the site.
- Regulation VIII, Rule 8031 applies to the outdoor handling, storage, and transport of any bulk material.
- Regulation VIII, Rule 8041 applies to sites where carryout or trackout has occurred or may occur on paved roads or the paved shoulders of public roads.
- Regulation VIII, Rule 8051 applies to any open area having 0.5 acre or more within urban areas or 3.0 acres or more within rural areas, and contains at least 1,000 square feet of disturbed surface area.
- Regulation VIII, Rule 8061 applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.
- Regulation VIII, Rule 8071 applies to any unpaved vehicle/equipment traffic area.
- Regulation VIII, Rule 8081 applies to off-field agricultural sources.

Sources regulated are required to provide Dust Control Plans that meet the regulation requirements. Under Rule 8021, a Dust Control Plan is required for any residential project that will include 10 or more acres of disturbed surface area, a nonresidential project with 5 or more acres of disturbed surface area, or a project that relocates 2,500 cubic yards per day of bulk materials for at least three days. The Dust Control Plan is required to be submitted to SJVAPCD prior to the start of any construction activity. The Dust Control Plan must also describe fugitive dust control measure to be implemented before, during, and after any dust-generating activity. For sites smaller than those listed above, the project is still required to notify SJVAPCD a minimum of 48 hours prior to commencing earthmoving activities.

National Emission Standards for Hazardous Air Pollutants

Rule 4002 applies in the event an existing building will be renovated, partially demolished, or removed (National Emission Standards for Hazardous Air Pollutants); this rule applies to all sources of Hazardous Air Pollutants.

Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations

If asphalt paving will be used, then paving operations of the proposed Project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.

Nuisance Odors

SJVAPCD controls nuisance odors through implementation of Rule 4102, Nuisance. Pursuant to this rule, "a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any

such person or the public or which cause or have a natural tendency to cause injury or damage to business or property."

Employer Based Trip Reduction Program

SJVAPCD has implemented Rule 9410, Employer Based Trip Reduction. The purpose of this rule is to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NOx, ROG, and particulate matter (PM_{10} and $PM_{2.5}$). The rule applies to employers with at least 100 employees. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate the participation of the development of ETRIPs by providing information to its employees explaining the requirements and applicability of this rule. Employers are required to prepare and submit an ETRIP for each worksite to the District. The ETRIP must be updated annually. Under this rule, employers shall collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined in using either the mandatory commute verification method or a representative survey method. Annual reporting includes the results of the commute verification for the previous calendar year along with the measures implemented as outlined in the ETRIP and, if necessary, any updates to the ETRIP.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Appendix G to the CEQA Guidelines states that "[w]here available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations." Consistent with this approach, the proposed Project will have a significant impact on the environment associated with air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

APPROACH TO ANALYSIS

While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, the SJVAPCD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the Lead Agency finds that the project would exceed these air pollution thresholds, the project should be considered to have significant air quality impacts. The applicable SJVAPCD thresholds and methodologies are contained under each impact statement below, as the City, in its discretion, has determined to utilize these thresholds and methodologies, which are based on scientific and factual data.

This analysis was performed consistent with the guidance and methodologies provided by the SJVAPCD's GAMAQI.[10] Based on the SJVAPCD New Source Review (NSR) offset requirements for stationary sources, the SJVAPCD has established thresholds of significance for criteria pollutant emissions, shown in Table 3.3-6. These thresholds apply to the project because these air pollutants would be generated during project construction and operation and constitute criteria pollutants or precursor emissions for criteria pollutants, which are regulated by the federal and State Clean Air Acts.

The SJVAPCD has also established significance thresholds to assess the impacts of project-related construction and operational emissions on regional and local ambient air quality. Table 3.3-7 shows the daily mass emissions screening criteria for construction and operation as adopted by the SJVAPCD for CAP and TAC emissions. The analysis summarized in this report estimates project-related construction and operational mass emissions and compares the emissions to these significance thresholds.

TABLE 3.3-6: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT SIGNIFICANCE THRESHOLDS

POLLUTANT	*CONSTRUCTION THRESHOLDS (TPY)*	*OPERATIONAL THRESHOLDS (TPY)*
ROG	10	10
NOx	10	10
CO	100	100
SOx	27	27
PM_{10}	15	15
$PM_{2.5}$	15	15

SOURCES: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (SJVAPCD). 2015. GUIDANCE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACT. WEBSITE: HTTPS://WWW.VALLEYAIR.ORG/TRANSPORTATION/CEQA%20RULES/GAMAQI%20JAN%202002%20REV.PDF ACCESSED JUNE 8, 2022.

TABLE 3.3-7: SJVAPCD DAILY MASS EMISSIONS SCREENING CRITERIA

POLLUTANT	*CONSTRUCTION THRESHOLDS (POUNDS PER DAY)*	*OPERATIONAL THRESHOLDS (POUNDS PER DAY)*
ROG	100	100
NOx	100	100
CO	100	100
SOx	100	100
PM_{10}	100	100
$PM_{2.5}$	100	100

SOURCES: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (SJVAPCD). 2015. GUIDANCE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACT. WEBSITE: HTTPS://WWW.VALLEYAIR.ORG/TRANSPORTATION/CEQA%20RULES/GAMAQI%20JAN%202002%20REV.PDF ACCESSED JUNE 8, 2022.

[10] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impact. Website: https://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf Accessed June 8, 2022.

The daily mass emissions screening criteria provided in Table 3.3-7 represent screening-level thresholds that can be used to evaluate whether project-related emissions would cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. If emissions exceed those thresholds, modeling would be required to demonstrate that the project's total air quality impacts result in ground-level concentrations that are below the CAAQS and NAAQS, including appropriate background levels.

CRITERIA POLLUTANT EMISSIONS MODELING

California Emission Estimator Model (CalEEMod)™ (v.2022.1), developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with California air districts, was used to estimate emissions for the proposed Project. Project construction was assumed to begin in 2025, and Project buildout was assumed to occur by 2040. It should be noted that buildout of the Specific Plan Area is anticipated to occur based on market conditions, and therefore may be developed according to a different timeframe. It should also be noted that, if the start of construction occurs later than 2025, the analysis presented herein provides a conservative impact analysis, as future emissions would be lower due to ongoing reductions pollution from cars, diesel trucks, and diesel equipment.

The assumptions for the modeling were selected on a best-fit basis, and are consistent with the information provided by the Project applicant.[11] The land uses modeled include: General Office Building (154,000 square feet); Health Club (20,000 square feet); Apartments Low Rise (175 dwelling units); Retirement Community (2,419 dwelling units); Single Family Housing (267 dwelling units); Regional Shopping Center (425,000 square feet); and Strip Mall (175,000 square feet). Vehicle trip rates estimated in the modeling are consistent with the vehicle trips rates included in the modeling developed by K.D. Anderson & Associates, Inc. in the *Transportation Impact Assessment for Riverwalk Specific Plan EIR* and may be an overestimate of actual uses. The construction phase includes demolition, site preparation, grading, building construction, paving, and architectural coating phases. See Appendix A for further detail.

IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Project operations could result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, and could conflict or obstruct implementation of the District's air quality plan. (Less than Significant with Mitigation)

The SJVAPCD is tasked with implementing programs and regulations required by the Federal Clean Air Act and the California Clean Air Act. In that capacity, the SJVAPCD has prepared plans to attain Federal and State ambient air quality standards. To achieve attainment with the standards, the SJVAPCD has established thresholds of significance for criteria pollutant emissions in their *SJVAPCD*

[11] Since CalEEMod has a limited set of land uses to select from, land uses for the purposes of modeling were selected within CalEEMod based on the best available fit to the land uses as specified in Chapter 2.0: Project Description of this EIR.

Guidance for Assessing and Mitigating Air Quality Impacts (2015). Projects with emissions below the thresholds of significance for criteria pollutants would be determined to "Not conflict or obstruct implementation of the District's air quality plan."

The proposed Project would be both a direct and indirect source of air pollution. Direct sources of pollution include area, energy, and water and waste sources, due to development of the on-site buildings and associated infrastructure. Indirect sources of pollution would be due to the generation of trips of from vehicles traveling to and from the Project Area.

CalEEMod™ (v.2022.1) was used to model operational emissions of the Specific Plan. It is noted that the existing conditions of those areas within the Project Area, but outside the Specific Plan, are assumed to remain unchanged under the proposed Project, and therefore do not warrant modeling. The proposed Project contains the following modeled project characteristics that reduce criteria pollutant emissions within the model, as follows:

- Install low-flow and/or high-efficiency water fixtures;
- Install drought-tolerant landscaping (consistent with the Water Efficient Landscape Ordinance);
- Develop the pedestrian network within the Specific Plan Area and connecting off-site;
- Provide traffic calming measures (at least 25% of Project streets and 25% of intersections).
- No hearths; and
- Install solar panels on residences (consistent with state requirements).

It should be noted that some proposed Project features are unable to be modeled in their entirety. For example, the proposed Project provides a plan to develop a Neighborhood Electric Vehicle (NEV) system for the active adult villages and community core. For the purposes of a conservative analysis, and since the exact nature of the NEV network is not fully established at this time, the potential emissions reductions associated with implementation of such a plan is not modeled herein. Table 3.3-8 shows the proposed Project unmitigated emissions, and Table 3.3-9 shows the proposed Project mitigated emissions, as provided by CalEEMod.

TABLE 3.3-8: UNMITIGATED OPERATIONAL PROJECT GENERATED EMISSIONS (TONS PER YEAR)

POLLUTANT	CO	NOX	ROG	SOX	PM_{10}	$PM_{2.5}$
THRESHOLD	100	10	10	27	15	15
EMISSIONS	91.4	9.8	20.7	0.3	31.6	8.3
EXCEEDS THRESHOLD?	**N**	**N**	**Y**	**N**	**Y**	**N**

SOURCES: CALEEMOD (V.2022.1)

TABLE 3.3-9: MITIGATED OPERATIONAL PROJECT GENERATED EMISSIONS (TONS PER YEAR)

POLLUTANT	CO	NOX	ROG	SOX	PM_{10}	$PM_{2.5}$
THRESHOLD	100	10	10	27	15	15
EMISSIONS	86.7	9.4	20.5	0.3	29.6	7.8
EXCEEDS THRESHOLD?	**N**	**N**	**Y**	**N**	**Y**	**N**

SOURCES: CALEEMOD (V.2022.1)

The SJVAPCD has established their thresholds of significance by which the Project emissions are compared against to determine the level of significance. The SJVAPCD has established operations related emissions thresholds of significance as follows: 100 tons per year of carbon monoxide (CO, 10 tons per year of oxides of nitrogen (NO_x), 10 tons per year of reactive organic gases (ROG), 27 tons per year of sulfur oxides (SOx), 15 tons per year particulate matter of 10 microns or less in size (PM_{10}), and 15 tons per year particulate matter of 2.5 microns or less in size ($PM_{2.5}$). If the proposed Project's emissions will exceed the SJVAPCD's threshold of significance for operational-generated emissions, the proposed Project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions to the extent feasible.

As shown in Table 3.3-8 and Table 3.3-9 above, operational emissions would exceed the SJVACPD thresholds of significance for ROG, and PM_{10}, even after considering a variety of proposed Project characteristics within the modeling. Therefore, the proposed Project is required to implement all feasible mitigation to reduce criteria pollutant emissions to below the applicable SJVAPCD thresholds of significance. The proposed Project would be required to implement Mitigation Measure 3.3-1, which would ensure that individual Projects within the footprint of the proposed Project would reduce emissions to less the applicable SJVAPCD thresholds of significance for criteria pollutants.

Additionally, the SJVAPCD has also developed daily mass emissions screening criteria for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ to determine whether project emissions would result in a violation of an AAQS. Because the NAAQS and CAAQS are concentration-based standards presented hourly, daily mass emissions are a more suitable estimate to determine whether a project would contribute to a violation of an AAQS. These screening criteria are 100 pounds per day for any pollutant. The following table (Table 3.3-10 provides the proposed Project's mitigated emissions in comparison to this screening threshold.

TABLE 3.3-10: MITIGATED OPERATIONAL PROJECT GENERATED EMISSIONS (POUNDS PER DAY)

POLLUTANT	*CO*	*NOX*	*ROG*	*SOX*	*PM_{10}*	*$PM_{2.5}$*
THRESHOLD	100	100	100	100	100	100
EMISSIONS	475	51.3	112	1.5	162	42.6
EXCEEDS THRESHOLD?	**Y**	**N**	**Y**	**N**	**Y**	**N**

SOURCES: CALEEMOD (V.2022.1)

As shown in Table 3.3-10, even after accounting for a variety of proposed Project characteristics that would reduce proposed Project emissions, the overall proposed Project would generate greater than 100 pounds per day of emissions for CO, ROG, and PM_{10}. Therefore, the proposed Project is required to implement Mitigation Measure 3.3-2, which requires the project applicant(s) for individual development projects to develop an AAQA to determine if increase from an individual development project would cause or contribute to a violation of State or National Air Quality Standards. If the individual development project is shown to cause or contribute to a violation of State or National Air Quality Standards, additional mitigation is required to be implemented (such as those identified under Mitigation Measure 3.3-1), in consultation with the SJVAPCD, to reduce such emissions

sufficiently to ensure that the individual development project would not cause or contribute to a violation of State or National Air Quality Standards.

PROJECT EFFECTS ON PUBLIC HEALTH

Stanislaus County has a state designation of Nonattainment for ozone, PM_{10} and $PM_{2.5}$. The SJVAPCD developed these Project-level thresholds based on the emissions that would exceed a CAAQS or contribute substantially to an existing or projected violation of a CAAQS. Ambient levels of these criteria pollutants are likely to decrease in the future, based on current and future implementation of federal and/or state regulatory requirements, such as improvements to the statewide vehicle fleet over time (including the long-term replacement of internal combustion engine vehicles with electric vehicles in coming decades).

Ozone

O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) (also known as ROG) and oxides of nitrogen (NO_x) in the presence of sunlight. The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function, and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2019b).

Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The Environmental Benefits Mapping and Analysis Program (BenMAP), developed by the U.S. EPA, is a powerful and flexible tool that helps users estimate human health effects and economic benefits resulted from changes in air quality. BenMAP outputs include PM- and ozone-related health endpoints such as premature mortality, hospital admissions, and emergency room visits. BenMAP calculates background health incidence rates based on the available health statistics and population data, with preference given to individual-level data counts (e.g., mortality counts or hospital and emergency department discharges) at the County-level. For

California counties, data were available at the individual-level. The background health incidence data are also based on different years depending on data availability. For example, hospital admissions and emergency department visits for California are based on 2011 data. For mortality background incidence rates, the U.S. EPA obtained data for 2012-2014 from the Centers for Disease Control WONDER database[12], and generated age-, cause-, and county-specific mortality rates as described in the BenMAP manual.

The estimated background health incidences of mean ozone annual health effects across the San Joaquin Valley are shown in Table 3.3-11.[13],[14] The background health incidences provide an estimate of the average number of people over a given population that suffer from some adverse health effect over a given period of time. For example, the background health incidence in the San Joaquin Valley for total asthma-related emergency room visits for adults is 11,039 per year; this represents approximately 0.3% of the population as experiencing such incidents in a given year.

TABLE 3.3-11: BENMAP-ESTIMATED ANNUAL MEAN OZONE HEALTH EFFECTS OF THE PROJECT EMISSIONS ACROSS THE SAN JOAQUIN VALLEY MODEL DOMAIN[1]

HEALTH ENDPOINT[2]	*BACKGROUND HEALTH INCIDENCE (ANNUAL)*	*SAN JOAQUIN VALLEY POPULATION[15]*	*PERCENTAGE OF INCIDENTS AS A PROPORTION OF POPULATION*
HOSPITAL ADMISSIONS, ALL RESPIRATORY [65-99]	35,103	4,300,000	0.8%
MORTALITY, RESPIRATORY [30-99]	11,222	4,300,000	0.3%
EMERGENCY ROOM VISITS, ASTHMA [0-17]	11,039	4,300,000	0.3%
EMERGENCY ROOM VISITS, ASTHMA [18-99]	25,345	4,300,000	0.6%

NOTES: [1]HEALTH EFFECTS ARE SHOWN TERMS OF INCIDENCES OF EACH HEALTH ENDPOINT AND HOW IT COMPARES TO THE BASE VALUES. YEAR 2025 IS USED FOR BASE YEAR HEALTH EFFECT INCIDENCES, OR "BACKGROUND HEALTH INCIDENCE". HEALTH EFFECTS AND BACKGROUND HEALTH INCIDENCES ARE ACROSS THE SAN JOAQUIN VALLEY MODEL DOMAIN. [2]AFFECTED AGE RANGES ARE SHOWN IN SQUARE BRACKETS. SOURCE: RAMBOLL, 2023.

The Project would generate emissions of ROG and NOx during Project operational activities, as shown in Table 3.3-9 and Table 3.3-10. Increases in ROG and NOx could affect people with impaired respiratory systems, but also healthy adults and children. Although NOx would not exceed the applicable air district criteria pollutant threshold, operational ROG would exceed the applicable air district criteria pollutant threshold. These increases in ROG would be primarily due to the operational mobile vehicles generated by the Project, but also substantially due to the use of

[12] See: http://wonder.cdc.gov

[13] As provided for the San Joaquin Valley for Year 2025, as prepared by Ramboll U.S. Consulting Inc. in their *Analysis of Potential Health Effects of Criteria Air Pollutant Emission Impacts, North Manteca Annexation #1 Project*, March 2023.

[14] Note: Although the Ramboll U.S. Consulting Inc. analysis for was prepared for a different project, the background health incidence rates are not project-specific. Rather, they are for the San Joaquin Valley as a whole for year 2025, and therefore are also provide a representative data snapshot for this project.

[15] See: https://www.ppic.org/blog/2020-census-counting-the-san-joaquin-valley/

consumer products (such as cleaning supplies, kitchen aerosols, cosmetics, and toiletries) by residents of the Project site. Consumer products are known to generate ROG through off-gassing. Such increases in ROG could fuel potential increases in health effects due to exposure to ozone.

Nevertheless, it should be noted that such exceedance of the ROG threshold would likely only occur in later phases of the Project, rather than in the early phases of Project operation, when only a proportion of the Project is built out. Moreover, this analysis does not consider potential future reductions in overall ROG off-gassing due to anticipated stricter consumer products regulations in the future. Furthermore, as shown in Table 3.3-11, health-related incidences associated with ozone are relatively low in the San Joaquin Valley.

Particulate Matter

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, PM can cause major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis, and premature death. Small particulate pollution has health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed. The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly, and children.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2019c).

The Project would generate emissions of PM during Project operational activities, as shown in Table 3.3-10. Although the exact effects of such emissions on local health are not known, it is likely that the increases in PM generated by the proposed Project would be minimal, even for people with impaired respiratory systems, located in the immediate vicinity of the Project site. The increases of these pollutants generated by the proposed Project would not on their own generate an increase in the number of days exceeding the NAAQS or CAAQS standards. In addition, because PM generated by the proposed Project is less than the air district's threshold, and based on the nature of the Project and its size, such emissions when combined with the existing PM emitted regionally would have minimal health effect on people located in the immediate vicinity of the Project site.

UFPs are a subset of PM and represent a health concern. Such particles have been shown to have the potential for even greater health effects than PM_{10} or $PM_{2.5}$, due to their even smaller particle sizes. However, there are no adopted rules or regulations by the U.S. EPA or California air districts regarding UFPs. Moreover, attainment status related to UFPs is not monitored by the U.S. EPA or California air districts, and the SJVAPCD does not provide any guidance for assessment, thresholds, or mitigation associated with UFPs. Additionally, air districts are not required to monitor UFPs. Nevertheless, funding for harm reduction and monitoring of UFPs is occurring throughout California. For example, the Bay Area Air Quality Management District (BAAQMD), a neighboring air district, established in 2011 a comprehensive program to study UFPs. As part of this program, the BAAQMD began making measurements at four air monitoring stations, with additional monitoring stations expected to be online in the future. At each station, the number of particles in a specified volume of air is counted every second. In addition to the number counts, sampling began in 2015 at two stations to gather data on UFP composition. Collected samples are analyzed for nineteen metals. Data obtained from these measurements is used to identify major UFP sources in the San Francisco Bay Area, and to evaluate models and refine estimates of UFP's public health impact.[16] Separately, the SJVAPCD provides grant funding for off-road engine projects through their grants and incentives programs, which reduce UFPs[17]; the U.S. EPA Pacific Southwest region has provided funding for both the South Coast Air Quality Management District and the S SJVAPCD District to help spur early-stage, innovative technologies that need further testing and demonstration prior to massive deployment and commercialization of California Clean Air Initiative (CATI) projects.[18] Examples of such projects include Hybrid Natural Gas-Electric and Fully Electric Class 8 Trucks, Zero Emission Heavy-Duty Electric Trucks, Zero- and Near-Zero Emission School Buses, Electric Delivery Trucks, and School Bus Air Filtration. Other, numerous efforts are underway throughout the state to reduce PM emissions, which also tend to reduce emissions of UFPs (since UFPs are a subset of PM).

Different sources of PM generate differing levels of UFPs. For example, almost all the PM emitted by natural gas combustion is in the $PM_{0.1}$ size fraction, whereas this is only true for less than half of the PM emitted by gasoline and diesel fuel combustion.[19] Therefore, estimating $PM_{0.1}$ can be difficult, given that it is not incorporated into the modeling software recommended by the CARB and the California air districts (i.e. CalEEMod). Nevertheless, a quantitative estimate of the Project's $PM_{0.1}$ is provided under Impact 3.3-4, based on assumptions provided in available literature.

Discussion

SJVAPCD has not established any methodology or thresholds (quantitative or qualitative) for assessing the health effects from criteria pollutants, except to the extent that they have established threshold quantities for air emissions. The quantitative modeling is presented in this document, and it shows that there is an exceedance of the SJVAPCD threshold for ROG and PM. Given the nature

[16]See: https://www.baaqmd.gov/about-air-quality/air-quality-measurement/special-air-monitoring-projects/special-reports/ultrafine-particulate-matter?sc_lang=en&switch_lang=true

[17] See: https://ww2.valleyair.org/grants/

[18] See: https://www.epa.gov/cati/california-clean-air-technology-initiative-cati-projects

[19] Venecek, M. A., Yu, X., and Kleeman, M. J.: Predicted ultrafine particulate matter source contribution across the continental United States during summertime air pollution events, Atmos. Chem. Phys., 19, 9399–9412, https://doi.org/10.5194/acp-19-9399-2019, 2019.

and size of the Project, a qualitative approach to correlating the expected air quality emissions of Project to the likely health consequences of the increased emissions is appropriate.

From a qualitative perspective, it is well documented from scientific studies that criteria pollutants such as ROG and PM, can have adverse health effects. The federal and state governments have established the NAAQS or CAAQS as an attempt to regionally, and cumulatively, assess and control the health effects that criteria pollutants have within Air Basins. It is anticipated that public health will continue to be affected by the emission of criteria pollutants, especially by those with impaired respiratory systems in the City and the surrounding region so long as the region does not attain the CAAQS or NAAQS. The Project's emissions would make a cumulatively considerable contribution to the region's exceedances of the CAAQS or NAAQS for ozone, and therefore would be expected to have a potentially significant health effects on people located in the immediate vicinity of the Project site. Mitigation has been presented to reduce emissions to below the human health protective thresholds established by the SJVAPCD. Without the mitigation measures, the health effects expected from the air emissions, namely ROG and PM, could include impaired respiratory systems, decreased lung function, respiratory inflammation, chest pain, coughing, sneezing and pulmonary congestion. These symptoms would be most prominent in asthmatics, but could also affect healthy adults and children as well in the regional vicinity. Long-term exposure to the emissions may increase the risk of respiratory-related deaths (U.S. EPA, 2019a) based on a variety of daily living factors.

CONCLUSION

With implementation of Mitigation Measures 3.3-1, individual development projects within the Plan Area are required to demonstrate that their criteria pollutant emissions would be below the applicable SJVAPCD thresholds. Additionally, Mitigation Measure 3.3-2 requires the project applicant(s) for individual development projects that exceed 100 pounds per day of any pollutant to develop an AAQA to determine if increase from an individual development project would cause or contribute to a violation of State or National Air Quality Standards. If the individual development project is shown to cause or contribute to a violation of State or National Air Quality Standards, additional mitigation is required to be implemented (such as those identified under Mitigation Measure 3.3-1), in consultation with the SJVAPCD, to reduce such emissions to ensure that the individual development project would not cause or contribute to a violation of State or National Air Quality Standards.

Additionally, the proposed Project is required to implement Mitigation Measure 3.3-3, which requires each individual development Project to prepare and submit a Rule 9510 Indirect Source Review application that meets all SJVAPCD requirements, as applicable. It should be noted that many of the mitigation measures that may be utilized within the Rule 9510 Indirect Source Review application may also overlap with the mitigation measures utilized to comply with Mitigation Measure 3.3-1 and Mitigation Measure 3.3-2, as applicable. Therefore, with implementation of Mitigation Measure 3.3-1, Mitigation Measure 3.3-2, and Mitigation Measure 3.3-3, the Project's potential to result in a a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, and therefore the proposed Project's potential to conflict with or obstruct implementation of the applicable air quality plan, would be considered to have a ***less than significant*** impact.

MITIGATION MEASURE(S)

***Mitigation Measure 3.3-1**:*

(a) ***Overall Obligation of River Walk Specific Plan Project**. The collective present and future applicants for the development approvals within the overall River Walk Specific Plan Project shall together be required to ensure that criteria pollutant emissions for the overall River Walk Specific Plan Project do not exceed the SJVAPCD criteria pollutant thresholds for a single year. The required reductions can be achieved through a combination of on-site and/or off-site mitigation strategies.*

(b) ***Individual Criteria Pollutant Reduction Plans (CPRPs).***

i. *Obligations of Each "Site" Within Overall Project. The obligation to reduce the overall criteria pollutant emissions of the River Walk Specific Plan Project may be achieved over time and incrementally in connection the City's approvals of discrete phases of development that are consistent with, and reflect, differing ownership interests within the overall Project area at the time of overall Project approval. These individual phases consist of each of the 18 individual villages and the four mixed use areas (i.e. Sites). Based on the respective levels of development being approved within these respective Sites, each Site's proportional share of required overall reduction is set forth in the Table below.*

ii. *Process for Approval of Individual CPRPs. Each applicant for development approvals for each Site, or part of a Site, shall propose a Criteria Pollutant Reduction Plan (CPRP) that would achieve the entire Site's proportional share of the overall required reduction of criteria pollutant emissions, consistent with the percentages shown in the Table, which correspond with the acreages of each Site as a proportion of all Sites. City approval of the CPRP for a Site shall be required prior to City approval of the first grading permit for any property within the Site. Each individual CPRP shall be approved, with modifications if deemed necessary, by the City's Community Development Director in consultation with SJVAPCD and/or a specialist Air Quality consultant retained by the Director at the applicant's expense.*

Site	*Acreage*	*Percentage Contribution (%)*
Village A	*83.08*	*12.74%*
Village B	*25.21*	*3.87%*
Village C	*59.76*	*9.17%*
Village D	*47.86*	*7.34%*
Village E	*34.51*	*5.29%*
Village F	*39.39*	*6.04%*
Village G	*22.62*	*3.47%*
Village H	*20.62*	*3.16%*
Village I	*10.02*	*1.54%*
Village J	*24.02*	*3.68%*
Village K	*37.16*	*5.70%*
Village L	*48.08*	*7.38%*
Village M	*19.11*	*2.93%*
Village N	*10.28*	*1.58%*
Village O	*24.89*	*3.82%*
Village P	*18.09*	*2.77%*
Village Q	*25.35*	*3.89%*
Village R	*25.21*	*3.87%*
Mixed Use Area 1	*44.02*	*6.75%*
Mixed Use Area 2	*8.07*	*1.24%*

Mixed Use Area 3	*7.28*	*1.12%*
Mixed Use Area 4	*8.01*	*1.23%*
Mixed Use Area 5	*5.35*	*0.82%*
Mixed Use Area 6	*4.04*	*0.62%*
ROW	*63.37*	*0.00%*
Community Park	*15.42*	*0.00%*
BGOS, Park, Basin, Reserve	*790.60*	*0.00%*
Total	***1,521.41***	***100.0%***

Note: Right of way, community park, and bluff acreage were not included as a contribution, since this table is only designed to apportion responsibility for the overall required reduction in criteria pollutant emissions for each site/applicant.

iii. Appeals of CPRPs to Planning Commission and City Council. After the Community Development Director has approved a CPRP, the document shall be posted in a prominent place on the City's website, along with notice to the public that any interested party may file, within 10 business days of such approval, a written appeal of the Community Development Director's approval to the City Planning Commission. The CPRP approval and notice of the right to appeal shall be included within that portion of the City's website devoted to activities of the Planning Division (https://www.riverbank.org/211/Planning-Division). Upon the timely filing of such an appeal, the Planning Commission shall promptly schedule and hold a duly-noticed public hearing on the adequacy of the CPRP. Any decision of the Planning Commission approving, conditioning, or denying a CPRP may be appealed to the City Council within 10 days of the Planning Commission decision. Upon appeal, the City Council shall promptly schedule and hold a duly noticed public hearing on the adequacy of the CPRP. The decision of the City Council shall be final, but may include directives to the Community Development Director regarding changes to be made to the CPRP if deemed necessary.

iv. Possible Adjustments to Mandatory Emissions Reductions. The level of proportionate criteria pollutant reductions required for the CPRP for a particular Site may be adjusted downward or upward if the applicant seeking development approvals for a Site is proposing a greater or lesser amount of development than was assumed in the EIR. Any such adjustments, however, shall be supported by rigorous technical analysis and/or other substantial evidence deemed sufficient by the Community Development Director. Adjustments may also be made in response to an evidentiary showing, based on substantial evidence persuasive to the Community Development Director, that the calculations of overall required criteria pollutant reductions used in the EIR are no longer accurate, or no longer represent the best available information, in light of improved criteria pollutant emissions modeling methodologies and/or improved energy conservation technologies, more stringent building codes, cleaner electricity sources, or other relevant factors.

v. Possible Strategies for Achieving Mandatory Reductions. The following is a non-exhaustive list of potential criteria pollutant mitigation strategies that could be implemented by individual Site applicants in their CPRPs in order to reduce the Sites' proportional shares of the overall requirement that the River Walk Specific Plan Project's CPRP emissions:

- *Implement cool roofs on project buildings.*
- *Provide electric vehicle (EV) charging stations.*
- *Encourage telecommuting and alternative work schedules.*
- *Provide a bus rapid transit system.*
- *Require that all residential units be constructed to use electric appliances exclusively, including water heaters.*

- *Except for commercial retail uses, design and orient a minimum of seventy-five percent (75%) of the Site's total non-residential building footprint such that one axis of the building is at least one-and-one-half (1.5) times longer than the other, and the other axis is within fifteen (15) degrees of geographical east-west.*
- *Require that one-hundred percent (100%) of non-residential roof area be constructed with either vegetated ('green') roof, or roofing materials with a high solar reflectance value, or a combination of both, provided that nothing in this subsection shall limit the use of roof area for renewable energy generation systems, such as solar thermal collectors or photovoltaics.*
- *Pre-plumb residential structures so that future homeowners or residents can elect to purchase and install electric car charging equipment.*
- *Provide induction stoves in new residential units.*
- *Pre-plumb parking lots for multi-family, business professional/commercial, and retail/commercial land uses to allow for more electric vehicle charging facilities than are required by building codes.*
- *Provide more electric vehicle charging facilities within parking lots for multi-family, business professional/commercial, and retail/commercial land uses than are required by building codes.*
- *Applicable measures identified in guidance from the SJVAPCD, if any, and/or in guidance provided by CARB, other regional air districts such as the Sacramento Metropolitan Air Quality Management District, the Bay Area Air Quality Management District, and the South Coast Air Quality Management District.*

vi. *Flexibility to Consider Improving Technologies. Due to ever-changing technologies, any other quantifiable criteria pollutant reduction measures shall be allowed under this measure, subject to the approval by the City Community Development Director in consultation with the SJVAPCD and/or an air quality GHG consultant retained by the Director at the applicant's expense.*

Mitigation Measure 3.3-2*: The SJVAPCD recommends an Ambient Air Quality Analysis (AAQA) be developed for individual development projects that exceed 100 pounds per day of any pollutant. Prior to the approval of each individual development project (i.e. final maps, improvement plans, site plan review, etc.), each project applicant shall develop an AAQA (including both permitted and non-permitted equipment and activities) using dispersion modeling to determine if increases from the individual development project would cause or contribute to violation of State or National Air Quality Standards. The project applicant(s) shall consult with the SJVAPCD to determine the appropriate model and input data to use in the analysis for each individual project.*

Mitigation Measure 3.3-3: *Prior to the commencement of construction activities for the project each individual development project, the project applicant(s) for each development project shall prepare and submit a Rule 9510 Indirect Source Review application that meets all SJVAPCD requirements, as applicable.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

After implementation of Mitigation Measure 3.3-1, the individual development projects within the Plan Area would be required to reduce the criteria pollutant emissions for each individual project to below the SJVAPCD criteria pollutant thresholds. Moreover, after implementation of Mitigation Measure 3.3-2, if an individual development project within the proposed Project is shown to exceed

100 pounds of emissions for any pollutant, the project applicant is required to develop an AAQA. Lastly, Mitigation Measure 3.3-3 identifies that the project applicant for each individual development project would also need to prepare and submit a Rule 9501 Indirect Source Review Application that meets all applicable SJVAPCD requirements, if required. Therefore, with implementation of the mitigation measures provided herein, the level of significance after mitigation for this impact is ***less than significant***.

Impact 3.3-2: Proposed Project construction activities could result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, and could conflict or obstruct implementation of the District's air quality plan. (Less than Significant)

Emissions from construction activities represent temporary impacts that are typically short in duration, depending on the size, phasing, and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant localized impacts to air quality. Construction-related activities would result in Project-generated emissions from demolition, site preparation, grading, paving, building construction, and architectural coatings. CalEEMod™ (v.2022.1) was used to estimate construction emissions for the proposed Project. Table 3.3-12, below, provides the construction criteria pollutant emissions associated with implementation of the proposed Project. It should be noted that individual phases of the proposed Project would be required to implement SJVAPCD rules relating to construction activities. The buildout construction schedule used for the purposes of modeling is provided in Table 3.3-12, below, which represents a reasonable assumption based on market limitations. It should be noted, however, that market conditions will dictate the final buildout construction schedule. A conservative analysis of the proposed Project emissions with these required SJVAPCD rules applied is provided in Table 3.3-13.

TABLE 3.3-12: CONSTRUCTION SCHEDULE ASSUMED FOR THE PURPOSES OF MODELING

PHASE NUMBER	PHASE TYPE	START DATE	END DATE	NUMBER OF DAYS
1	Demolition	6/1/2025	7/12/2025	30
2	Site Preparation	7/13/2025	6/13/2026	240
3	Grading	6/14/2026	10/28/2028	620
4	Building Construction	10/29/2028	3/29/2039	3500
5	Paving	10/29/2028	7/6/2030	440
6	Architectural Coating	10/29/2028	12/13/2039	3685

SOURCES: CALEEMOD (V.2022.1)

TABLE 3.3-13: MAXIMUM CONSTRUCTION PROJECT GENERATED EMISSIONS (TONS PER YEAR) - MITIGATED

POLLUTANT	CO	NOX	ROG	SOX	PM_{10}	$PM_{2.5}$
THRESHOLD	100	10	10	27	15	15
EMISSIONS	13.6	4.2	2.3	<0.1	2.8	1.0
EXCEEDS THRESHOLD?	**N**	**N**	**N**	**N**	**N**	**N**

SOURCES: CALEEMOD (V.2022.1)

If the proposed Project's emissions will exceed the SJVAPCD's threshold of significance for construction-generated emissions, the proposed Project will have a significant impact on air quality and all feasible mitigation measures are required to be implemented to reduce emissions. As shown in Table 3.3-13, above, proposed Project annual construction emissions would not exceed the SJVAPCD thresholds of significance for criteria pollutants. Moreover, the proposed Project emissions would also not exceed the 100 pounds per day screening threshold identified by the SJVAPCD for the purposes of screening for an AAQA.

CONCLUSION

The proposed Project would comply with pre-existing requisite federal, State, SJVAPCD, and other local regulations and requirements. Additionally, the proposed Project construction emissions would not exceed the applicable SJVAPCD criteria pollutant thresholds for construction. Therefore, the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.3-3: The proposed Project would not generate carbon monoxide hotspot impacts. (Less than Significant)

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (U.S. EPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels could increase the risk of such incidences.

The Project Area is in a State attainment area and a federal attainment-unclassified area for carbon monoxide. In addition, CO emissions under Specific Plan operation are below the applicable significance threshold promulgated by the SJVAPCD. Increases in proposed Project VMT would increase concentrations of carbon monoxide (CO) along streets and intersections that provide access to the Specific Plan Area. Carbon monoxide is a local pollutant (i.e., high concentrations are normally only found very near sources), and can form local elevated concentrations under specific conditions. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations (i.e., hotspots), therefore, are usually only found near areas of very high traffic volume and congestion.

Several factors combine to make substantial concentrations of carbon monoxide unlikely. Existing physical constraints such as high-density, high-profile buildings or other obstructions that could prevent dispersion of carbon monoxide are largely absent. Predominant weather conditions in the area include air movement that would help facilitate carbon monoxide dispersion. Congested traffic conditions that otherwise could result in concentration of carbon monoxide would be of short duration. Further, under existing regulatory and legislative mandates, emissions volumes from all vehicle classes will continue to decline. Given these factors, substantial concentrations of carbon monoxide are not expected at or along any affected roadways or intersections.

CONCLUSION

The Project Area is in an area that is designated attainment and attainment-unclassified for carbon monoxide. Substantial concentrations of carbon monoxide are not expected at or along any streets or intersections affected by the development of the Specific Plan Area. Impacts associated with carbon monoxide hotspots would be ***less than significant,*** and no additional mitigation is required.

Impact 3.3-4: The proposed Project has the potential for public exposure to toxic air contaminants. (Less than Significant with Mitigation)

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at very low concentrations. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the state and federal governments have set ambient air quality standards.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. EPA regulate 188 air toxics, also known as hazardous air pollutants. The U.S. EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources. In addition, the U.S. EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment. These are acrolein, benzene, 1,3-butidiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter.

The 2007 U.S. EPA rule requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050. California maintains stricter standards for clean fuels and emissions compared to the national standards, therefore it is expected that MSAT trends in California will decrease consistent with or more than the U.S. EPA's national projections.

The California Air Resources Board (CARB) published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB, 2005) to provide information to local planners and decision-makers about land use compatibility issues associated with emissions from industrial, commercial, and mobile sources of air pollution. The CARB Handbook indicates that mobile sources continue to be the largest overall contributors to the State's air pollution problems, representing the greatest air pollution health risk to most Californians. The most serious pollutants on a statewide basis include diesel exhaust particulate matter (diesel PM), benzene, and 1,3-butadiene, all of which are emitted by motor vehicles. These mobile source air toxics are largely associated with freeways and high traffic roads. Non-mobile source air toxics are largely associated with industrial and commercial

uses. Table 3.3-14 provides the California Air Resources Board minimum separation recommendations on siting sensitive land uses.

TABLE 3.3-14: CARB MINIMUM SEPARATION RECOMMENDATIONS ON SITING SENSITIVE LAND USES

SOURCE CATEGORY	*ADVISORY RECOMMENDATIONS*
Freeways and High-Traffic Roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	• Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of pending analyses of health risks.
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloro-ethylene	• Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

SOURCES: AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE" (CARB 2005)

The Project Area is not located adjacent to a rail yard, port, refinery, chrome plater, dry cleaner, or gasoline dispensing facility. The Project Area fronts on Patterson Road (SR 108), which is a state highway. It is noted that the SR 108 designation is expected to be removed when the North County Corridor is constructed between Claribel Road and the City of Oakdale Patterson Road, however, does not have over 50,000 vehicles/day and air toxics are not considered a concern along this transportation corridor. Nevertheless, most of the land use within the Specific Plan Area fronting on Patterson Road is Mixed Use, which is anticipated to be predominately a commercial and retail operation. These types of uses are not considered sensitive uses. The exception is Village R, which already has existing residential homes constructed on the property. The low-density residential land use in this area is most appropriate because it represents what is already in place.

The residential land uses within the Specific Plan Area could potentially be affected by the commercial businesses developed within the Mixed Use areas. This will largely depend on the business that operates in the Mixed Use area, and what stationary sources are needed to operate

the business and facility. At this stage in the planning process, it is anticipated that the Mixed Use areas could have a complement of shops, restaurants, offices, retail, and professional services, as well as high density residential. It is unlikely that significant generation of toxic emissions would occur from these uses.

Businesses/facilities that would be expected to have the potential to generate TACs within the Specific Plan Area would include dry cleaners and gas stations. It is noted that perchloroethylene (the primary TAC historically generated by dry cleaners) is currently regulated by the U.S. EPA (under the Clean Air Act), and is also regulated by the State of California; California banned the installation of new perchloroethylene dry cleaning machines in 2007, and perchloroethylene machines are expected to be banned completely in California by 2023. Separately, any gas stations that would be developed within the Specific Plan Area would be small-scale. Still, until an actual user/business/facility is proposed within the Mixed Use areas, the quantity and toxicity of emissions, and proximity to sensitive receptors, cannot be assessed with any level of certainty.

The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly) requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels. The Air Toxics "Hot Spots" Act requires air districts to prioritize facilities to determine which facilities must perform a health risk assessment. These facilities, for purposes of risk assessment, are ranked into high, intermediate, and low priority categories. Each air district is responsible for establishing the prioritization score threshold at which facilities are required to prepare a health risk assessment. In establishing priorities, Air Districts are to consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, and any other factors that The Air District determines may indicate that the facility may pose a significant risk.

To assist Air Districts with this prioritization requirement, the CAPCOA Toxics Committee, in cooperation with the Office of Environmental Health Hazard Assessment and the California Air Resources Board, developed the Air Toxics "Hot Spots" Program, Facility Prioritization Guidelines (July 1990). The purpose of the guideline is to provide air districts with suggested procedures for prioritizing facilities. However, districts may develop and use prioritization methods which differ from the CAPCOA guidelines.

The Air District prioritizes facilities based on the quantity and toxicity of the emissions, and their proximity to areas where the public may be exposed. Facilities put in the significant risk category are required by the SJVAPCD to prepare a comprehensive, facility-wide health risk assessment. However, the Mixed Use portion of the Specific Plan lacks design and operational details that are necessary to enable the analysis of the quantity and toxicity of emissions, if any. There are a variety of uses that could operate out of the Mixed Use area, and each would have very specific emissions unique to their respective business operation. An analysis of the Mixed Use area could be performed when the property owner/applicant for the site completes the site design, and submits applications to the City for approval.

CONCLUSION

Overall, while implementation of the proposed Project, including the Specific Plan, would not result in an increased exposure of sensitive receptors to localized concentrations of TACs, there is a potential for future commercial business activity, as permitted under the Specific Plan, to result in increased exposure of sensitive receptors to localized concentrations of TACs. The emission sources could be stationary sources and/or mobile source (i.e. diesel truck traffic). Because, at the early stage of land use planning for the Mixed Use areas, the City does not yet know the precise locations, configurations, and sizes of any future business/facility that may generate sufficient levels of TACs to create the possibility of adverse health effects, it is premature, at the Specific Plan stage, to undertake an overall health risk assessment for the Specific Plan. Future health risk assessments will be performed where warranted, as required by Mitigation Measure 3.3-4 below.

The following mitigation measure would ensure that each future business is assessed for TACs in accordance with the requirements of the Air Toxics "Hot Spots" Program, Facility Prioritization Guidelines (July 1990). Implementation of this mitigation measure would ensure that impacts related to public exposure to TACs would be ***less than significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.3-4*: Prior to issuance of building permits or commencing operation of any commercial building/use that would emit toxic air contaminants (such as gas stations or dry cleaning operations), the project applicant(s) for each individual development project shall, at a minimum, perform prioritization screening in accordance with the Air Toxics "Hot Spots" Program, Facility Prioritization Guidelines (July 1990) and the Air Toxics "Hot Spots" Information and Assessment Act. The prioritization screening shall be performed in accordance with the California Air Pollution Control Officers Association Air Toxic "Hot Spots" Program guidance. The prioritization screening shall also be conducted consistent with the guidance provided by the San Joaquin Valley Air Pollution Control District (SJVAPCD), which will be responsible for determining which facilities, based on their prioritization screening score, must perform a health risk assessment. In determining the need to prepare a health risk assessment, the SJVAPCD considers the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, and any other factors specific to the facility that indicate that it may pose a significant health risk.*

If a health risk assessment is warranted for a facility based on its prioritization score, the project applicant shall assess the facilities for the potential to expose the public to toxic air contaminants in excess of the applicable thresholds (utilizing an air dispersion modelling program such as AERMOD). As of the time of this writing, the commonly accepted threshold for cancer risk is 10 in a million for carcinogens, and the reference exposure level for non-carcinogens (HI = 1). Facilities that exceed the applicable threshold(s) have the potential to expose the public to toxic air contaminants levels that would be considered significant. Facilities that exceed the applicable threshold(s) must incorporate mitigation to reduce the risks from emission of toxic air contaminants to an acceptable level (i.e., to a level that does not exceed the applicable threshold[s]). Potential mitigation includes: reducing the size of the facility area; rearranging the site to reduce the potential for impacts on the nearest

sensitive receptors; and utilizing products that reduce the level of toxic air contaminants, or removal of such products from the operational phase of the project.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

After implementation of Mitigation Measure 3.3-4, the individual development projects within the Plan Area that have the potential to generate significant health risks would be mitigated to below the applicable SJVAPCD health risk thresholds. Therefore, with implementation of Mitigation Measure 3.3-4, the level of significance after mitigation for this impact is ***less than significant***.

Impact 3.3-5: The proposed Project would not cause exposure to other emissions (such as those leading to odors) adversely affecting a substantial number of people. (Less than Significant)

The following text addresses odors. Other emissions (including criteria pollutants and TACs) are addressed in Impacts 3.3-1 through 3.3-4.

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD. The general nuisance rule (Health and Safety Code §41700) is the basis for the threshold.

Examples of facilities that are known producers of odors include: Wastewater Treatment Facilities, Chemical Manufacturing, Sanitary Landfill, Fiberglass Manufacturing, Transfer Station, Painting/Coating Operations (e.g. auto body shops), Composting Facility, Food Processing Facility, Petroleum Refinery, Feed Lot/Dairy, Asphalt Batch Plant, and Rendering Plant.

If a project proposes to locate receptors and known odor sources in proximity to each other, further analysis may be warranted. However, if a project would not locate receptors and known odor sources in proximity to each other, then further analysis is not warranted.

The proposed Project does not include new odor producing uses that are not already present in the vicinity of the Specific Plan Area. Air district Rule 402 prohibits any mobile or stationary source generating an objectionable odor, except for odors emanating from certain agricultural operations. The California Health and Safety Code §41700 and Air District Rule 402 prohibit emissions of air contaminants from any source that cause nuisance or annoyance to a considerable number of people or that present a threat to public health or cause property damage. Compliance with these rules would preclude land uses proposed under the proposed Project from emitting objectionable odors.

CONCLUSION

The proposed Project does not include new odor producing uses that are not already present in the vicinity of the Specific Plan Area; nor does it propose sensitive receptors that would be exposed to odors in the vicinity. Therefore, impacts associated with exposure to odors would be ***less than significant.***

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This section describes the geomorphic provinces/bioregions, vegetation, wildlife, soils, hydrogeomorphic features, wetlands, special status species, regulatory setting, and impacts that are expected on biological resources. This section is based in part on the following technical studies: *City of Riverbank General Plan 2005-2025* (City of Riverbank, 2009), the *City of Riverbank Draft Environmental Impact Report for the 2005-2025 General Plan Update* (City of Riverbank, 2008), as well as site specific surveys and analysis for the Berghill property and Offsite Sewer Line.

Comments were received from the following during the Notice of Preparation (NOP) scoping process related to this environmental topic: City of Modesto (July 2, 2021), Soluri Meserve (July 6, 2021), Evelyn Halbert (July 5, 2021), Danilo Martinez (July 5, 2021), Blake and Alicia Fisher (July 9, 2021), Central Valley Regional Water Quality Control Board (July 6, 2021), California Department of Fish and Wildlife (July 6, 2021), Betsy Walton (July 6, 2021), and Central Valley Concerned Citizens (July 6, 2021). Full comments received are included in Appendix A.

Methods

PRE-FIELD INVESTIGATION

Prior to the field investigation, numerous maps, databases, and reports were reviewed including:

- U.S. Geological Survey (USGS) 7.5-minute Quadrangle
- USGS National Hydrography Data Set
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps
- National Resource Conservation Service (NRCS) Soil Survey
- California Wildlife Habitat Relationships (CWHR) maps
- California Natural Diversity Database (CNDDB)
- California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants
- U.S. Fish and Wildlife Service's (USFWS) IPac
- U.S. Fish and Wildlife Service's (USFWS) Official List

FIELD SURVEY: BERGHILL BOUNDARY

The Berghill Boundary was subject to a field survey by Principal Biologist Steve McMurtry in December 2019 and March, May, and June 2020. The parcels surveyed are identified in Table 3.4-1. It is noted that APN 074-003-021, while not part of the Berghill Boundary, was field surveyed with the Berghill parcels. The parcels are shown on Figure 2.0-3 in Section 2.0 Projection Description. The surveys served several purposes. First, they served as reconnaissance of the site to establish the existing conditions of the site and to verify information gathered in the pre-field investigation. This included identification of the habitat types, hydrologic features, topography, soil characteristics, vegetation. The field investigations followed the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009). Field investigations were performed during the floristic period for species in the region. Field investigations were performed on foot using transects. Habitat was recorded, and the Berghill Property was inspected for the presence, or potential for presence of wildlife. The area was inspected for its upland and aquatic habitat functions. The field investigations coincided with the optimal period for observing nesting birds, breeding amphibians, and active reptiles. The Berghill Property was also examined for

evidence of scat and tracks of mammals. The surveys spanned multiple growing seasons, so condition of the fields ranged from recently tilled agricultural fields, to early growth of crop. Orchards ranged from dormant to early growth. Visibility during each survey was excellent. The natural habitats of the riparian and bluff areas were inspected; however, the density of vegetation and steepness of slopes were two factors that limited the ability to provide full transect coverage.

TABLE 3.4-1: PARCELS FIELD SURVEYED (BERGHILL BOUNDARY)

MAP ID	*APN*	*ACREAGE**	*FIELD SURVEYED*
34	074-002-001	305.49	Yes
35	074-003-022	366.22	Yes
36	074-003-021*	40.90	Yes
41	074-003-023	68.06	Yes
49	074-003-024	26.27	Yes

*Note: * This parcel is not part of the Berghill Boundary, but was field surveyed with the balance of the Berghill parcels.*

FIELD SURVEY: SEWER LINE

The Offsite Sewer Line was subject to a field survey by Principal Biologist Steve McMurtry in May 2020. The Offsite Sewer Line is shown on Figure 2.0-16 in Section 2.0 Projection Description. The sewer line survey area is largely linear, extending from the south side of the Stanislaus River, beneath the riverbed, emerging on the north side of the river, and then continuing east along an existing levee and ending at the wastewater treatment plant.

The southern portion of the pipeline had been covered by the Berghill Boundary survey in 2019 and 2020. The survey strategy consisted of following the proposed alignment of the pipeline through the existing wastewater treatment facility and through fallow agricultural fields at the toe of the north side levee of the Stanislaus River. Two parallel transects five meters apart were used for observation; one in each direction from the starting and stopping point, with attention paid to the slope of the levee as well as the agricultural fields.

Similar to the Berghill survey, this survey was a reconnaissance of the site to establish the existing conditions of the site and to verify information gathered in the pre-field investigation. This included identification of the habitat types, hydrologic features, topography, soil characteristics, vegetation. The field investigation followed the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009). Field investigations were performed during the floristic period for species in the region. Field investigations were performed on foot using transects. Habitat was recorded, and the Offsite Sewer Line was inspected for the presence, or potential for presence of wildlife. The area was inspected for its upland and aquatic habitat functions. The field investigations coincided with the optimal period for observing nesting birds, breeding amphibians, and active reptiles. The Offsite Sewer Line was also examined for evidence of scat and tracks of mammals. Visibility during the survey was excellent. The natural habitats of the riparian areas were inspected; however, the density of vegetation was a factor that limited the ability to provide full transect coverage of a large buffer area; however, care was provided to ensure that a full coverage survey of the actual alignment was provided.

FIELD TOOLS/EQUIPMENT

Tools used during the field investigations included a Trimble GeoExplorer XH Handheld (sub-foot unit), 30-meter tape measure, diameter tape, spade, Munsell color chart, Vortex 20-60x80 spotting scope, and Swarvoski 10x42 binoculars.

ASSESSMENT OF AREAS NOT ACCESSIBLE FOR FIELD SURVEY

There are portions of the Specific Plan Area, as well as the Reserve Area outside the Specific Plan Area, that are not controlled by the Project Applicant and were not accessible for field surveys. The parcels not surveyed that are within the Specific Plan Area are identified in Table 3.4-2. Additionally, the parcels not surveyed that are in the Reserve Area outside the Specific Plan Area are identified in Table 3.4-3. The parcels are shown on Figure 2.0-3 in Section 2.0 Projection Description.

TABLE 3.4-2: PARCELS NOT FIELD SURVEYED (SPECIFIC PLAN AREA)

MAP ID	*APN*	*ACREAGE**	*FIELD SURVEYED*
38	074-003-016	23.94	No
39	074-003-013	28.30	No
40	074-003-012	15.39	No
42	074-003-002	14.30	No
43	074-003-015	8.84	No
44	074-003-014	9.29	No
45	074-003-011	2.39	No
46	074-003-010	3.55	No
47	074-003-019	3.78	No
48	074-003-018	5.75	No
50	074-003-008	9.99	No
51	074-003-007	9.60	No
52	074-003-006	9.59	No
53	074-003-005	4.83	No
54	074-003-004	5.05	No
55	074-003-003	9.95	No
56	074-005-012	1.03	No
57	074-005-013	1.68	No
58	074-005-010	1.27	No
59	074-005-011	0.40	No

TABLE 3.4-3: PARCELS NOT FIELD SURVEYED (RESERVE AREA OUTSIDE SPECIFIC PLAN AREA)

1	074-001-001	61.77	No
2	074-001-015	9.91	No
3	074-001-016	5.34	No
4	074-001-003	0.60	No
5	074-001-011	3.47	No
6	074-001-012	3.02	No
7	074-001-013	3.02	No
8	074-001-005	3.01	No
9	074-001-014	2.68	No
10	074-001-008	0.83	No
11	074-001-009	2.00	No
12	074-001-010	18.49	No
13	074-002-020	2.84	No
14	074-002-019	2.42	No
15	074-002-018	2.04	No
16	074-002-017	2.12	No
17	074-002-025	2.19	No

18	074-002-024	1.51	No
19	074-002-014	56.16	No
20	074-002-013	11.63	No
21	074-002-011	34.44	No
22	074-002-028	2.35	No
23	074-002-026	21.00	No
24	074-002-006	32.35	No
25	074-002-010	27.07	No
26	074-002-031	48.26	No
27	074-002-021	28.10	No
28	074-002-030	40.20	No
29	074-002-029	39.43	No
30	074-002-034	23.87	Yes
31	074-002-007	5.46	No
32	074-002-033	17.10	No
33	074-002-032	4.79	No
37	074-003-020	2.61	No

The portions of the Specific Plan Area that have not been field surveyed will warrant complete coverage surveys if those property owners seek to develop their property. Additionally, all Reserve areas outside the Specific Plan Area will warrant complete coverage surveys if those property owners seek development entitlements beyond the long-range planning effort provided by the proposed SOI Expansion.

While these areas were not physically surveyed on foot utilizing transects, these areas were still assessed for biological resources utilizing a combination of a desktop review and reconnaissance from roads accessible to the Berghill parcels. The desktop review consists of the same techniques utilized in the Pre-field Investigation, which involves a review of numerous maps, databases, and reports including: U.S. Geological Survey (USGS) 7.5-minute Quadrangle, USGS National Hydrography Data Set, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, National Resource Conservation Service (NRCS) Soil Survey, California Wildlife Habitat Relationships (CWHR) maps, California Natural Diversity Database (CNDDB), California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants, U.S. Fish and Wildlife Service's (USFWS) IPac, U.S. Fish and Wildlife Service's (USFWS) Official List. Also utilized were a series of historical and current aerial photos, and GIS data. The reconnaissance of these areas is a visual survey from public right-of-way and from private roads that are accessible to the Berghill parcels. The visual survey includes the use of a Vortex 20-60x80 spotting scope, and Swarvoski 10x42 binoculars to search surroundings for wildlife. Additionally, the visual survey involves looking for animal tracks or other sign on dirt roadways and viewing habitat conditions and wildlife on adjacent parcels.

3.4.1 ENVIRONMENTAL SETTING

GEOMORPHIC PROVINCES/BIOREGION

The City of Riverbank is located in the southern portion of the Great Valley Geomorphic Province of California. The Great Valley Province is a broad structural trough bounded by the tilted block of the Sierra Nevada on the east and the complexly folded and faulted Coast Ranges on the west. The Stanislaus River is located just north of the City. This is a tributary of the San Joaquin River, which

drains the Great Valley Province into the San Joaquin Delta to the north, ultimately discharging into the San Francisco Bay to the northwest.

The City of Riverbank is located within the San Joaquin Valley Bioregion, which is comprised of Kings County, most of Fresno, Kern, Merced, and Stanislaus counties, and portions of Madera, San Luis Obispo, and Tulare counties. The San Joaquin Valley Bioregion is the third most populous out of ten bioregions in the state, with an estimated 2 million people. The largest cities are Fresno, Bakersfield, Modesto, and Stockton. Interstate 5 and State Route 99 are the major north-south roads that run the entire length of the bioregion.

The bioregion is bordered on the west by the coastal mountain ranges. Its eastern boundary joins the southern two-thirds of the Sierra bioregion, which features Yosemite, Kings Canyon, and Sequoia National Parks. At its northern end, the San Joaquin Valley bioregion borders the southern end of the Sacramento Valley bioregion. To the west, south, and east, the bioregion extends to the edges of the valley floor.

Habitat in the bioregion includes vernal pools, valley sink scrub and saltbush, freshwater marsh, grasslands, arid plains, orchards, and oak savannah. Historically, millions of acres of wetlands flourished in the bioregion, but stream diversions for irrigation dried all but about five percent. Remnants of the wetland habitats are protected in this bioregion in publicly owned parks, reserves, and wildlife areas. The bioregion is considered the state's top agricultural producing region with the abundance of fertile soil.

LOCAL SETTING

Location

The proposed Project is located in the unincorporated area of Stanislaus County and adjacent to the City of Riverbank, north of Patterson Road/State Route (SR) 108, east of McHenry Avenue, and approximately two miles northwest of downtown Riverbank. Figures 2.0-1 shows the Project's regional location and vicinity.

The proposed Project includes a proposed Specific Plan, as well as a Sphere of Influence (SOI) Amendment. The entire Project Area includes approximately 1,522 acres within the unincorporated county adjacent to the City of Riverbank. The River Walk Plan Area includes a 997-acre area to be annexed and subsequently developed. The remaining land within the Project Area is part of the SOI Amendment, and would be held as Reserve land for possible long-range planning at some future time.

The overall Project Area includes several distinct planning boundaries defined below. The following terms are used throughout this DEIR to describe planning area boundaries within the Project Area:

- SOI Expansion Area – includes the proposed Sphere of Influence Amendment and encompasses the entire Project Area.
- Specific Plan Area - includes all lands identified and included within the River Walk Specific Plan. The Specific Plan Area is proposed to be annexed into the City of Riverbank as part of

the proposed Project. The Specific Plan Area is a portion of the SOI Expansion Area.

- Berghill Boundary – includes areas within the Specific Plan Area that are controlled by the Project applicant.
- Project area - includes the SOI expansion area, including the Specific Plan and Berghill Boundary. The Project Area is the same boundary as the SOI Expansion Area.

Project area boundaries are shown on Figure 2.0-2 and acreages associated with each area are shown in Table 2.0-1. As shown on Figure 2.0-2 and in Table 2.0-1, the proposed Project includes approximately 1,522 acres encompassing: (1) the Specific Plan Area that includes a total of 997 acres, including the Berghill Boundary, and (2) the SOI Expansion Boundary, which makes up the entire Project Area.

Topography

The Project Area topography ranges greatly in elevation from approximately 75 to 159 feet above sea level. The high area to the south and west is approximately 100 to 125 feet above mean sea level and acts as a ridge surrounding the lowland areas which are approximately 75 to 80 feet above mean sea level. There is a steep banked slope that separates the high and low areas. Other than the prominent steep sloping banked areas, the majority of the Project Area contains gentle slopes and is generally characterized as flat. Figure 2.0-4 shows the topography of the Project Area.

Climate

The summer climate is hot and sub-humid with warm, dry summers, and cool, moist winters. In the entire San Joaquin Valley Air Basin (SJVAB), daily summer high temperatures average 95 degrees. Over the last 30 years, temperatures in the SJVAB averaged 90 degrees or higher for 106 days a year, and 100 degrees or higher for 40 days a year.

The daily summer temperature variation can be as high as 30 degrees. In winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Average high temperatures in the winter are in the 50s, but lows in the 30s and 40s can occur on days with persistent fog and low cloudiness. The average daily low winter temperature is 45 degrees. The average rainfall is approximately 12.1 inches and occurs during winter storms.

Existing Uses

The current uses in the Project Area are predominantly agricultural operations, including almond and walnut orchards in the eastern/southeastern portion of the Project Area and cherry orchards and fallow land in the western/central portion of the Project Area. The land in the north/northwestern portion of the Project Area contains fallow land and various trees including Eucalyptus and Willow trees. In the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. Additionally, horse ranch exists within the Project Area. The Project Area also includes a

commercial nursery business and truck storage area. Additionally, an approximately 150-acre solar farm and the Modesto Rifle Club exist in the southwest portion of the Project Area directly northeast of the intersection of Patterson Road and McHenry Avenue, and the Morris Nursery exists in the southeastern corner of the Project Area directly northwest of the intersection of Patterson Road and Rock Creek Road. Figure 2.0-5 shows aerial imagery of the Project Area.

The Modesto Irrigation District (MID) provides the water supply for the existing agricultural uses and maintains two easements in the Project Area. A MID main canal with a crossing is located approximately 950 feet to the west and approximately 0.45 miles to the east of the intersection of Patterson Road and Coffee Road in the southern portion of the Project Area. The canal enters in the southwest portion of the Project Area and runs to the northeast eventually curving to exit the Project Area in the southeast. A series of private irrigation ditches and pipes distribute the MID water from the on-site canals throughout the Project Area for agricultural use.

Assessed uses as identified by the County Assessor include predominantly agricultural uses, with limited areas assessed by the County Assessor as single family residential, commercial, office and other miscellaneous uses. Figure 2.0-6 shows Assessed Land Uses within the Project Area as identified by the County Assessor.

Surrounding Uses

The Project Area is located outside the northwestern boundary of the City of Riverbank Sphere of Influence (SOI), within the unincorporated area of Stanislaus County. The Project Area is bounded on the north by the Stanislaus River and Stanislaus County Limits, on the south by Patterson Road, on the west by McHenry Avenue, and on the east by single-family residential subdivision. Uses immediately adjacent to the south and southwest of the Project Area include agricultural uses and residential uses, including ranchettes and large estates lots. Uses directly southeast of the Project Area include agricultural uses and a single-family residential subdivision. Other existing uses east of the southerly portion of the Project Area include a single-family residential subdivision and a commercial center. Uses immediately west of the Project Area include active agricultural land and the Del Rio Country Club, including a golf course and associated single-family residential subdivision. Other nearby uses include agricultural uses and residential uses, including ranchettes and large estates lots to the north, northeast, and northwest across the Stanislaus River. Figures 2.0-1 and 2.0-2 in Section 2.0, Project Description, illustrate the regional location and Project vicinity.

Vegetation

The Project Area, including the Offsite Sewer Line, consists of highly disturbed areas (agricultural area), mostly undisturbed natural habitats (bluff area), and mostly undisturbed natural habitats (riparian area).

Agricultural Area: The majority of the Project Area is under active agricultural use, and overall, there is very limited natural vegetation in the Project Area. The perimeter of the agricultural fields has some limited ruderal vegetation, but it also predisposed to regular disturbance. Much of the agricultural activity is deciduous orchards, which generally has a productive cycle of 25-30 years for

most orchard species. Some of the agricultural areas is also used for ground crops, including watermelons and other fruits and vegetables.

Bluff Area: The bluff area is not actively used for agricultural use, and is mostly undisturbed with the exception of several areas that have been graded into farm roads. These areas contain a variety of annual grasses such as wild oat (*Avena barbata*), rip-gut brome (*Bromus diandrus*), softchess (*Bromus hordeaceus*) alfalfa (*Medicago sativa*), Russian thistle (Salsola tragus), Italian thistle (*Carduus pycnocephalus*), rough pigweed (*Amaranthus retroflexus*), sunflower (*Helianthus annuus*), tarragon (*Artemisia dracunculus*), prickly lettuce (*Lactuca serriola*), milk thistle (*Silybum marianum*), sow thistle (*Sonchus asper*), telegraph weed (*Heterotheca grandiflora*), barley (*Hordeum* sp.), mustard (*Brassica niger*), and heliotrope (*Heliotropium curassavicum*). There are also a variety of mature native oak trees in the bluff area.

Riparian Area: This riparian area is characterized by a canopy layer of cottonwoods, California sycamores, and valley oaks. Subcanopy cover trees are white alder, boxelder, and Oregon ash. Typical understory shrub layer plants include wild grape, wild rose, California blackberry, elderberry, button brush, and willows. The herbaceous layer consists of sedges, rushes, grasses, miner's lettuce, poison-hemlock, and nettle. Annual grassland is also a habitat type found in more open patches in the riparian area. Common species of annual grassland include wild oats, soft chess, ripgut brome, red brome, wild barley, and foxtail fescue. Common forbs include redstem filaree, turkey mullein, clovers, and popcorn flower.

Other micro habitat types within the Riparian area include fresh emergent wetland, riverine, and disturbed areas. Fresh emergent wetland habitats occur in some areas along the Stanislaus River edge and are characterized by erect, rooted hydrophytes such as sedge, nutsedge, rush, and cattail. The Stanislaus River comprised of the riverine habitat. The disturbed category includes several areas showing disturbance in the forms of rip-rap, roads/trails, or similar man-made disturbances not suitable for inclusion with the other categories used.

The Riparian Zone is shown in Figure 3.4-1.

Wildlife

Vegetation found in the Project Area provides habitat for both common and a few special-status wildlife populations. For example, some commonly observed wildlife species in the region include: California ground squirrel (*Spermophilus beecheyi*), California vole (*Microtus californicus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus),* American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), American killdeer (*Charadrius vociferus*), gopher snake (*Pituophis melanoleucus*), garter snake (*Thamnophis species*), and western fence lizard (*Sceloporus occidentalis*), as well as many native insect species. There are also several bat species in the region. Bats often feed on insects as they fly over agricultural and natural areas.

Locally common and abundant wildlife species are important components of the ecosystem. Due to habitat loss, many of these species must continually adapt to using agricultural, ruderal, and ornamental vegetation for cover, foraging, dispersal, and nesting.

Plant Communities

Agricultural and natural plant communities provide habitat for a variety of biological resources in the region. Sensitive habitats include those that are of special concern to resource agencies or those that are protected under a Habitat Conservation Plan, Natural Community Conservation Plan, the California Environmental Quality Act (CEQA), the Fish and Game Code, or the Clean Water Act (CWA). Additionally, sensitive habitats are sometimes protected under specific policies from local agencies. Figure 3.4-2 illustrates the plant communities (land cover types) in the vicinity of the Project Area[1]. Table 3.4-4 summarizes the plant communities (land cover types) by acreage.

TABLE 3.4-4: LAND COVER TYPES

LAND COVER TYPE	*ACREAGE*		
	SPECIFIC PLAN AREA	*PROPOSED SOI*	*GRAND TOTAL*
Annual Grassland	8.89	0.00	**8.89**
Cropland	9.34	1.31	**10.65**
Deciduous Orchard	906.08	466.27	**1,367.80**
Dryland Grain Crops	5.34	1.56	**6.89**
Evergreen Orchard	2.89	0.44	**3.34**
Fresh Emergent Wetland	2.00	0.00	**2.00**
Irrigated Grain Crops	2.00	0.00	**2.00**
Irrigated Hayfield	3.29	16.41	**19.70**
Irrigated Row and Field Crops	1.33	0.22	**1.56**
Pasture	1.19	21.79	**22.99**
Riverine	4.89	0.03	**4.92**
Urban	16.10	5.01	**21.11**
Valley Foothill Riparian	20.49	6.17	**26.66**
Vineyard	13.34	9.56	**22.90**
Total	997.18	524.23	**1521.41**

SOURCE: CALFIRE FRAP DATA, STANISLAUS COUNTY, 2020.

Soils

Holocene-aged Alluvium (Q) underlies the Project Area with the exception to the very eastern portion of the Project Area, which is underlain by the Middle Pleistocene-aged fluvial sediments of the Riverbank Formation (Qr). These sediments each consist primarily of gravels, sands, silts, and interbedded clays. Review of available groundwater information provided by the California Department of Water Resources indicates that regional groundwater beneath the site is present at a depth of 60 to 80 feet below the existing ground surface (WallaceKuhl & Associates, March 2020).

A Custom Soil Survey was completed for the Project Area using the NRCS Web Soil Survey program. Table 3.4-5 identifies the type and range of soils found in the Project Area. The majority of soils

[1] It is noted that the land cover types map is created from large scale GIS surveys put together by the State of California and does not represent a precise vegetative cover.

within the Planning Area consist of course and fine sands and sandy loams. Below is a brief description of prominent soils within the Project Area.

TABLE 3.4-5: PROJECT AREA SOILS

UNIT SYMBOL	*NAME*	*SPECIFIC PLAN AREA - ACRES*	*SOI ONLY - ACRES*	*GRAND TOTAL*	*CAPABILITY CLASS*
132	Columbia Fine Sandy Loam	0.49	0.00	0.49	III-IV
DeA	Delhi loamy sand, 0 to 3 percent slopes	7.50	0.00	7.50	III-IV
DeB	Delhi loamy sand, 3 to 8 percent slopes	1.57	0.00	1.57	III-IV
DhA	Delhi sand, 0 to 3 percent slopes	4.73	2.89	7.62	III-IV
DhB	Delhi sand, 3 to 8 percent slopes	122.23	4.28	126.52	III-IV
FoA	Foster very fine sandy loam, very poorly drained, slightly saline-alkali, 0 to 1 percent slopes	31.45	5.51	36.97	III-IV
GfA	Grangeville fine sandy loam, 0 to 1 percent	155.96	14.22	170.18	II-IV
GmA	Grangeville very fine sandy loam, 0 to 1 percent	253.78	44.33	298.11	II-IV
GnA	Grangeville very fine sandy loam, slightly saline-alkali, 0 to 1 percent slopes	138.03	0.00	138.03	II-IV
GoA	Grangeville very fine sandy loam, moderately saline-alkali, 0 to 1 percent slopes	30.84	0.00	30.84	III-IV
GsA	Greenfield sandy loam 0 to 3 percent slopes	14.57	0.00	14.57	I-IV
GvA	Greenfield sandy loam, deep over hardpan	23.70	5.01	28.72	II-IV
HbmA	Hanford fine sandy loam, moderately deep over sand, 0 to 3 percent slopes	18.60	0.00	18.60	III-IV
HdA	Hanford sandy loam, 0 to 3 percent	98.65	219.13	317.78	I-IV
HdpA	Hanford sandy loam, moderately deep over silt	0.72	16.42	17.14	II-IV
OaA	Oakdale sandy loam, 0 to 3 percent	0.00	21.97	21.97	I-IV
Rr	Riverwash	23.86	6.20	30.05	0-VIII
TuA	Tujunga loamy sand, 0 to 3 percent slopes	31.74	114.04	145.77	III-VI
TuB	Tujunga loamy sand, 3 to 5 percent slopes	0.70	30.61	31.31	III-VI
TvA	Tujunga sand, 0 to 3 percent slopes	0.00	5.66	5.66	IV-VI
Tx	Terrace escarpments	32.15	33.83	65.97	0-VIII
W	Water	5.92	0.13	6.05	0
	Grand Total	***997.18***	***524.23***	***1,521.41***	

SOURCE: NRCS CUSTOM SOIL SURVEY 2023.

Delhi soil series (i.e., DeA, DeB, DhA, DhB). The Delhi series consists of very deep, somewhat excessively drained soils. Delhi soils are formed in wind modified material weathered from granitic rock sources. Delhi soils are on floodplains, alluvial fans and terraces. Slopes are 0 to 15 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 62 degrees F. They are somewhat excessively drained and negligible to slow runoff, and have a rapid permeability. Common uses for this series include: growing grapes, peaches, truck crops, alfalfa and

for homesites. Vegetation on uncultivated areas consists of buckwheat and a few shrubs and trees, as well as annual grasses and forbs.

Foster very fine sandy loam (i.e., FoA). The Foster series is a member of a coarse-loamy mixed, noncalcareous, thermic family of Aquic Haploxerolls. The soils have gray to light gray, sandy loam A horizons which become mottled and calcareous in the lower part; light gray to light olive gray, calcareous C horizons. The soils occur on flood plains and are formed in alluvium from acid igneous rocks. The soils are poorly or very poorly drained with moderate permeability and ponded to very slow runoff; however, many areas have altered drainage because of deep pumping for irrigation. Common uses for this series include: grain, pasture, alfalfa and field and truck crops. Natural vegetation is principally grasses, juncus, sedges, willows and cottonwood.

Grangeville soil series (i.e., GfA, GmA, GnA, GoA). The Grangeville series consists of very deep, somewhat poorly drained soils that formed in moderate coarse textured alluvium dominantly from granitic rock sources. Grangeville soils are on alluvial fans and floodplains and have slopes ranging from 0 to 2 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 63 degrees F. This series is intensively used for growing alfalfa, grapes, cotton, truck crops and irrigated pasture. Vegetation in uncultivated areas is annual grasses and forbs with native (sodic) alkali-tolerant plants and a few scattered oak and cottonwood trees.

Greenfield soil series (i.e., GsA, GvA). The Greenfield series consists of deep, well drained soils that formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. Greenfield soils are on alluvial fans and terraces and have slopes of 0 to 30 percent. They have slow to medium runoff and moderately rapid permeability. Common uses for this series include: production of a wide variety of irrigated field, forage and fruit crops, and growing dryland grain and pasture. Vegetation on uncultivated areas consists of annual grass, forbs, some shrubs and scattered oak trees.

Hanford soil series (i.e., HbmA, HdA, HdpA). The Hanford series consists of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains and alluvial fans and have slopes of 0 to 15 percent. They have negligible to low runoff and moderately rapid permeability. Common uses for this series include: growing a wide range of fruits, vegetables, and general farm crops, urban development, and dairies. Vegetation in uncultivated areas is mainly annual grasses and associated herbaceous plants.

Oakdale sandy loam (i.e., OaA). The Oakdale series consists of very deep, well drained soils that formed in alluvium derived from granitic rock sources. They are on nearly level to gently sloping alluvial fans and terraces and in slightly depressed stream channels traversing alluvial fans with slopes of 0 to 5 percent. They have very slow to slow runoff and moderately rapid permeability. Almost all areas are cultivated and irrigated. Common crops are grapes, almonds, peaches, alfalfa, barley, beans, corn and walnuts.

Tujunga soil series (i.e, TuA, TuB, TvA). The Tujunga series consists of very deep, somewhat excessively drained soils that formed in alluvium from granitic sources. Tujunga soils are on alluvial

fans and floodplains, including urban areas. Slopes range from 0 to 12 percent. The mean annual precipitation is about 450 millimeters (mm) and the mean annual temperature is about 18 degrees C. The soil series is somewhat excessively drained and has a negligible to low runoff. They also have a high saturated hydraulic conductivity with a flooding of none to frequent. This soil is used for grazing, citrus, grapes, other fruits, and urban residential or commercial development. Uncultivated areas have a cover of shrubs, annual grasses and forbs, and in urban areas, ornamentals and turf-grass are common.

Aquatic Resources

There are three categories of aquatic resources located within the Project Area. This includes the following: 1) the Stanislaus River, which is a natural riverine habitat (6.94 acres); 2) Modesto Irrigation District facilities, which is a manmade agricultural irrigation distribution facility (6.48 acres); and 3) Agricultural Ditch, which is a ditch that drains runoff from the agricultural fields in the lower portion of the Specific Plan Area (15.22 acres). In addition to these aquatic features, there are various smaller field agricultural field ditches and a 52.02-acre riparian area located along the Stanislaus River. Figure 3.4-3 illustrates the location of the aquatic resources located on in the Project Area. Each resource is discussed below.

STANISLAUS RIVER

The Stanislaus River is a tributary of the San Joaquin River. The main stem of the river is 96 miles long, and measured to its furthest headwaters it is about 150 miles long. Originating as three forks in the high Sierra Nevada, the river flows generally southwest through the agricultural San Joaquin Valley to join the San Joaquin River south of Manteca, draining parts of five counties. The Stanislaus River is known for its swift rapids and scenic canyons in the upper reaches, and is heavily used for irrigation, hydroelectricity and domestic water supply. There is 6.94 acres of this aquatic facility within the boundary of the Project Area. Additionally, there is a strip of riparian habitat along the Stanislaus River, on the river-side of the levee. The riparian habitat makes up 52.02 acres of the Project area.

MODESTO IRRIGATION DISTRICT

Modesto Irrigation District (MID) provides water supply for agricultural operations in the region and maintains two easements in the Project Area. An MID main canal with a crossing is located approximately 950 feet to the west and approximately 0.45 miles to the east of the intersection of Patterson Road and Coffee Road in the southern portion of the Project Area. The canal enters in the southwest portion of the Project Area and runs to the northeast eventually curving to exit the Project Area in the southeast. A series of private irrigation ditches distribute the MID water from the on-site canals throughout the Project Area. There is 6.48 acres of this aquatic facility within the boundary of the Project Area.

AGRICULTURAL DITCH

There are a series of agricultural ditches located in the lower portion of the Specific Plan Area, mostly on the Berghill Property, totaling 15.22 acres. A portion of the ditches was a natural feature within a historic floodplain. When the levee was built over 70 years ago the land around it was converted to an agricultural use and no longer functioned as a floodplain. As a result, for at least 70 years the

ditch has been functioning as an agricultural ditch for irrigation and precipitation runoff collection from the agricultural fields in the lower portion of the Specific Plan Area. The history of the agricultural ditch is discussed below.

Pre-Levee: The 1914 USGS Topo map shows the Berghill Property as having a network of vernal pools with the topography generally draining to the west toward a marshy area along the bluff and then draining through the marsh to the north where it ultimately drained into the Stanislaus River. This map shows that the levee did not exist at this time, and it is believed that the Berghill Property (below the bluff) served as periodic floodplain for the Stanislaus River. The topography on the 1914 USGS Topo Map suggests that during flood events the Stanislaus River could flow over the southern bank of the river onto the Berghill Property and continue flowing westerly to a low point along the bluff before following the bluff to the north and exiting back into the Stanislaus River. Based on the topography, during very high floods it is likely that the area along the bluff would backup with ponded floodwaters until the high flows of the Stanislaus River subsided allowing the ponded water to flow out to the river. This may be why these maps show the area as marshy.

The 1939 and 1942 USGS Topo Maps do not show the network of vernal pools or the marshy area along the bluff, and instead shows a much more defined drain along the western edge of the Berghill Property following the bluff to the north where it drained into the Stanislaus River. The levee does not exist in these maps. It is not clear if the vernal pools on the Berghill property were filled during this period, or if the 1939 and 1942 maps just did not include those features. It is also not clear if the marshy drainage area was changed to a channelized drain eliminating the marshy habitat, or if the maps just did not include that feature.

Post-Levee: The 1953 USGS Topo Map shows the levee within the Berghill Property on the southside of the Stanislas River. The construction of the levee occurred sometime between 1942 and 1953 and functionally changed the natural hydrology of the Berghill Property. With the construction of the levee, floodwaters from the Stanislaus River would be maintained within the river channel and floodplains on the northside of the levee. The levee prevented floodwaters from the Stanislaus River from entering the Berghill property. Additionally, the levee would have significantly reduced the hydrologic function of the drain such that its watershed became defined as the Berghill Property itself, which was no longer a floodplain of the Stanislaus River. Overall, the volume of water flowing through the drain was limited to precipitation within the Berghill Property. While there is no clear evidence of this on these maps, it is possible that the area was irrigated for agriculture, which would have provided additional flows through the drain beyond just precipitation. This Topo Map does not show the network of vernal pools or the marshy area along the bluff, and instead shows a defined drain along the western edge of the Berghill Property following the bluff to the north similar to the 1939 and 1942 maps. The drain flows under the levee to the property to the north where it drained into the Stanislaus River.

The 1969 USGS Topo Maps shows that the Berghill Property was leveled for agricultural production. This conversion is anticipated to have happened sometime between 1953 when the levee was constructed and 1969. This Topo Map shows a defined drain along the western edge of the Berghill Property following the bluff to the north similar to the 1939, 1942, and 1953 maps. The drain flows under the levee to the property to the north where it drained into the Stanislaus River.

The 2012, 2015, and 2018 USGS Topo maps continue to show the same agricultural use of the Berghill Property and the location of the drain.

The Post-Levee period consisted of a time of significant changes to the natural hydrology of the Berghill Property. The changes were triggered by the construction of the levee, which prevented Stanislaus River floodwaters from entering the property, and ultimately allowed the property to "dry out" from what was historically a vernally mesic floodplain. It is not known if the vegetation in this area was riparian forest, or vernal pool grassland, or a combination of both habitats before the levee was constructed; however, there is substantial evidence from historical mapping that it was vernally mesic. Once land changed from a floodplain to a dry upland habitat, it led to the leveling of the Berghill Property for agricultural use and ultimately channelization of what was a natural drain into an agricultural ditch intended to drain the agricultural fields. Additionally, a network of agricultural ditches was added to the area to improve irrigation runoff as part of the agricultural operations.

Today, the agricultural ditch functions to collect agricultural runoff within the watershed through a series of other agricultural ditches in the lower portion of the Specific Plan Area. The ditch directs flows to the north along the edge of the bluff, similar to its historical location. There is a pump located at the point where the ditch meets the levee at the northern most point of the Berghill Property. It was noted by Mike Berg (current property owner) that the pump is not currently functional, so all agricultural runoff ponds within the agricultural ditch, functionally making it serve as an agricultural detention basin. When the pump was in operation, the pump would move the agricultural runoff under the levee to the north where it was ultimately flow into the Stanislaus River. It is noted that during the field surveys there was no standing water in the agricultural ditch, including at its lowest point near the pump at the levee.

In addition to the main agricultural ditch described above, there are small agricultural ditches that have also been created along some of the agricultural fields to collect agricultural runoff. The more notable agricultural ditch is located on the southern end of the Berghill property, and has connectively to the main agricultural ditch.

SPECIAL-STATUS SPECIES

The following discussion is based on a background search of special-status species that are documented in the California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants, and the U.S. Fish and Wildlife Service's (USFWS) records of listed endangered and threatened species from the IPAC database. The background search was regional in scope and focused on the documented occurrences within the Specific Plan Area's 9-quadrangle region (i.e., Riverbank, Salida, Brush Lake, Ceres, Denair, Waterford, Oakdale, Escalon, Avena, Bachelor Valley, Farmington, and Peters U.S. Geological Survey quadrangles). Table 3.4-6 provides a list of special-status plants and Table 3.4-7 provides a list of special-status animals. Figure 3.4-4 presents the documented occurrences within the Project Area's nine-quadrangle region.

TABLE 3.4-6: SPECIAL-STATUS PLANT SPECIES WHICH MAY OCCUR IN PROJECT AREA

SPECIES	*STATUS (FED./CA/CNPS)*	*HABITAT, ELEVATION, AND BLOOMING PERIOD*	*PRESENCE DETERMINATION*
Beaked clarkia *Clarkia rostrate*	--/--/1B.3	Cismontane woodland, valley and foothill grassland. 60-500 meters. April-May.	Not Present
Colusa grass *Neostapfia colusana*	T/E/1B.1	Vernal pool (adobe, large). 5-200 meters. May-August.	Not Present
Greene's tuctoria *Tuctoria greenei*	E/R/1B.1	Vernal pool. 30-1,070 meters. May-July.	Not Present
Heartscale *Atriplex cordulata var. cordulata*	--/--/1B.2	Saline or alkaline soils, chenopod scrub, meadows and seeps, valley and foothill grassland (sandy). 0-560 meters. April-October.	Not Present
Legenere *Legenere limosa*	--/--/1B.1	Vernal pool. 1-880 meters. April-June.	Not Present
Prairie wedge grass *Sphenopolis obtusata*	--/--/2B.2	Mesic soils, cismontane woodland, meadows and seeps. 300-2,000 meters. April-June.	Not Present
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	T/E/1B.1	Vernal pool. 10-755 meters. April-September.	Not Present
Subtle orache *Atriplex subtilis*	--/--/1B.2	Valley and foothill grassland. 40-100 meters. June, August-October.	Not Present

NOTES: CNPS = CALIFORNIA NATIVE PLANT SOCIETY

FEDERAL

E = ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.

T = THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.

STATE

E = ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.

T = THREATENED UNDER THE FEDERAL CALIFORNIA ENDANGERED SPECIES ACT.

R = RARE UNDER THE CALIFORNIA ENDANGERED SPECIES ACT

CALIFORNIA NATIVE PLANT SOCIETY

1B = RARE, THREATENED, OR ENDANGERED IN CALIFORNIA AND ELSEWHERE.

2 = RARE, THREATENED, OR ENDANGERED IN CALIFORNIA, BUT MORE COMMON ELSEWHERE.

3 = A REVIEW LIST – PLANTS ABOUT WHICH MORE INFORMATION IS NEEDED.

4 = PLANTS OF LIMITED DISTRIBUTION – A WATCH LIST

.1 = SERIOUSLY ENDANGERED IN CALIFORNIA (OVER 80% OF OCCURRENCES THREATENED-HIGH DEGREE AND IMMEDIACY OF THREAT).

.2 = FAIRLY ENDANGERED IN CALIFORNIA (20-80% OCCURRENCES THREATENED).

.3 = NOT VERY ENDANGERED IN CALIFORNIA (<20% OF OCCURRENCES THREATENED).

TABLE 3.4-7: SPECIAL-STATUS WILDLIFE AND FISH SPECIES WHICH MAY OCCUR IN PROJECT AREA

SPECIES	STATUS (FED/CA)	GEOGRAPHIC DISTRIBUTION	HABITAT REQUIREMENTS	PRESENCE DETERMINATION
Invertebrates				
California linderiella *Linderiella occidentalis*	--/--	Documented on most land forms, geologic formations and soil types supporting vernal pools in California, at altitudes as high as 1,150 meters (3,770 ft) above sea level. Most common in the Central Valley.	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and total dissolved solids.	Not Present
Crotch bumble bee *Bombus crotchii*	--/CE	Occur in the United States and Baja California in Mexico. Occur primarily in California, Western Desert, and adjacent foothills. Distributed throughout most of southwestern North America.	Found within open grasslands and scrub habitats.	Potentially Present
midvalley fairy shrimp *Branchinecta mesovallensis*	--/--	Extending from Stillwater Plain in Shasta County through most of the length of the Central Valley to Pixley in Tulare County and along the central Coast Range from northern Solano County to Pinnacles National Monument in San Benito County.	Vernal pools with tea-colored water, most commonly in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands.	Not Present
Molestan blister beetle *Lytta molesta*	--/--	Distribution of this species is poorly known.	Annual grasslands, foothill woodlands or saltbush scrub.	Not Present
Monarch butterfly – California overwintering population *Danaus plexippus*	FC/--	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Closed-cone forest.	Not Present.
Obscure bumble bee *Bombus caliginosus*	--/--	Occur in Mediterranean California and the Pacific Coast.	Found within open grassy prairies and coastal meadows.	Potentially Present
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT/--	Stream side habitats below 3,000 feet throughout the Central Valley.	Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant.	Potentially Present
Vernal pool fairy shrimp	FT/--	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County.	Common in vernal pools; they are also found in sandstone rock outcrop pools.	Not Present.

SPECIES	*STATUS (FED/CA)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*	*PRESENCE DETERMINATION*
Branchinecta lynchi				
Vernal pool tadpole shrimp *Lepidurus packardi*	FE/--	Shasta County south to Merced County.	Vernal pools and ephemeral stock ponds.	Not Present
Western bumble bee *Bombus occidentalis*	--/CE	Occur in the western United States and western Canada.	Nest underground in rodent burrows. Require plants that bloom that contain nectar.	Potentially Present
Amphibians				
California red-legged frog *Rana aurora draytoni*	T/SSC/Yes	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County	Permanent and semi-permanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods.	Not Present
California tiger salamander *Ambystoma californiense (A. tigrinum c.)*	FT/CT	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grass-lands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy.	Not Present
western spadefoot *Spea hammondii*	--/SSC	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County.	Permanent and semi-permanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods.	Not Present
Birds				
Burrowing owl *Athene cunicularia*	--/SSC	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast.	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows.	Habitat present (fields); one occurrence for this species approximately 1.5 miles southeast of the Specific Plan Area
Cackling (Aleutian Canada) goose *Branta hutchinsii leucopareia*	--/--	The entire population winters in Butte Sink, then moves to Los Banos, Modesto, the Delta, and East Bay reservoirs; stages near Crescent City during spring before migrating to breeding grounds.	Roosts in large marshes, flooded fields, stock ponds, and reservoirs; forages in pastures, meadows, and harvested grainfields; corn is especially preferred.	Habitat present (ditches and fields), none observed. Regionally common.
Great blue heron *Ardea herodias*	--/--	Found throughout much of North America and into Central and South America. Common throughout California.	Rookeries occur in tall trees near a variety of wetland habitat types. Isolated areas that discourage predation and human disturbance are preferred.	Habitat present (ditches and fields), none observed; two occurrences for this

SPECIES	STATUS (FED/CA)	GEOGRAPHIC DISTRIBUTION	HABITAT REQUIREMENTS	PRESENCE DETERMINATION
				species exist within two miles: one at the E. River Road / McHenry Avenue intersection, and one approximately 1.2 miles northeast of the Specific Plan Area. Regionally common.
Snowy egret *Egretta thula*	--/--	Found mostly throughout North, Central, and South America. Breeds in coastal and inland wetlands. Their range has been limited over time due to habitat destruction and hunting. A migratory species that relocates from the United States and Canada to Mexico, Central America, South America, and the West Indies.	Prefer shallow water inlets for feeding such as salt-marsh pools, tidal channels, and bays. Mostly along coastal areas and islands. During winter time they migrate and roost in the mangroves of the Caribbean.	Habitat present (ditches and fields), none observed. Regionally common.
Swainson's hawk *Buteo swainsoni*	--/CT	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County.	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields.	Habitat present (fields and riparian), none observed. Anticipated to forage within Project Area. Nesting opportunities in riparian area.
Tricolored blackbird *Agelaius tricolor*	--/SSC	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony.	Limited habitat present (agricultural ditch), none observed.
Yellow-breasted chat *Icteria virens*	--/SSC	Are found in Southern Canada to Mexico, southern Ontario, Alberta, and the United States during breeding season. Range from southern Baja California, to Texas, to western Panama during the winter months. In the eastern United States including northeastern South Dakota, eastern Kansas, Texas, and Nebraska.	Prefer dense deciduous and coniferous forests. Found in shrubby habitats and also along streams, swamps, forests, and upland thickets. Prefer sumac trees, dogwood, and red cedar. Find shelter and food in wetlands and orchards.	Habitat present (riparian area), none observed.
FISH				

SPECIES	*STATUS (FED/CA)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*	*PRESENCE DETERMINATION*
Delta smelt *Hypomesus transpacificus*	T/T/Yes	Primarily in the Sacramento–San Joaquin Estuary but has been found as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay.	Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand.	Not Present. Outside the range for this species.
Hardhead *Mylopharodon conocephalus*	--/SSC	Tributary streams in the San Joaquin drainage; large tributary streams in the Sacramento River and the main stem.	Resides in low to mid-elevation streams and prefer clear, deep pools and runs with slow velocities. They also occur in reservoirs.	Present in the Stanislaus River.
Steelhead – Central Valley DPS *Oncorhynchus mykiss irideus*	FT/--	This distinct population segment, or DPS, includes all naturally spawned populations of steelhead (and their progeny) in the Sacramento and San Joaquin Rivers and their tributaries, excluding steelhead from San Francisco Bay and San Pablo Bays and their tributaries.	Free of heavy sedimentation with adequate flow and cool, clear water. Gravel that is between 0.5 to 6.0 inches in diameter, dominated by 2 to 3-inch gravel. Escape cover such as logs, undercut banks, and deep pools for spawning adults.	Present in the Stanislaus River.
Mammals				
Hoary bat *Lasiurus cinereus*	--/--	Occur in all 50 states. Rare in the eastern United States and northern Rockies. Found mainly in the Pacific Northwest and California, Arizona, and New Mexico.	Prefer older large leaf trees such as cottonwoods, willows, and fruit/nut trees for daytime roosts. Often found in association with riparian corridors. Need open spaces to forage.	Potentially Present
pallid bat *Antrozous pallidus*	--/SSC	Associated with oak woodlands in coastal California.	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Potentially Present
Townsend's big-eared bat *Corynorhinus townsendii*	FE/--	Coastal regions from Del Norte County south to Santa Barbara County.	Roosts in caves, tunnels, mines, and dark attics of abandoned buildings. Very sensitive to disturbances and may abandon a roost after one onsite visit.	Potentially Present
Western mastiff bat *Eumops perotis californicus*	--/SSC	Widespread in the southern United States and the northern part of Mexico. Occur at elevations to 2,600 meters.	Day roosts occur in crevices of cliffs and rocky canyons as well as trees. Roost areas need to be elevated and have a 2 meter drop off for take off area. Can live in chaparral, costal and desert shrubs, and forests and wetland habitats.	Potentially Present
Western red bat *Lasiurus blossevillii*	--/SSC	Occur in southern British Columbia, the majority of the western United States, throughout Central America and Mexico, and even further south including Brazil, Bolivia, and Chile.	Prefers edges that have trees for roosting as well as open areas. Requires water. Feeds on a multitude of insects. Roosts primarily in trees and sometimes in shrubs but less often. Roost 2-40 ft above the ground.	Potentially Present

SPECIES	*STATUS (FED/CA)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*	*PRESENCE DETERMINATION*
Yuma myotis *Myotis yumanensis*	--/--	Occur in western North America and also from British Columbia to Central Mexico.	Range from juniper and riparian woodlands to the desert near open water sources. Found near rivers, streams, ponds, etc. Temperate and terrestrial habitats.	Potentially Present
Reptiles				
giant gartersnake *Thamnophis gigas*	T/T	Rivers, canals, irrigation ditches, rice fields, and other aquatic habitats with slow moving water and heavy emergent vegetation.	Endemic to the Central Valley. In the Sacramento Valley, suitable habitats occur primarily in the central portion of the valley floor.	Habitat present (ditches), low potential for presence.
northern California legless lizard *Anniella pulchra*	--/SSC	California legless lizards are found in California and Mexico. They are found from western central California (San Joaquin and the coastal regions), through northwestern Baja California, and as far south as Colonia Guerrero, Mexico.	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	Not Present.
Western pond turtle *Emys marmorata*	--/--	Occurs from the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada.	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests.	Habitat present (ditches), moderate potential for presence.

STATUS EXPLANATIONS:

FEDERAL

E = ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
PE = PROPOSED FOR ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
PT = PROPOSED FOR THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
C = CANDIDATE SPECIES FOR LISTING UNDER THE FEDERAL ENDANGERED SPECIES ACT.
D = DELISTED FROM FEDERAL LISTING STATUS.

STATE

E = ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
C = CANDIDATE SPECIES FOR LISTING UNDER THE STATE ENDANGERED SPECIES ACT.
FP = FULLY PROTECTED UNDER THE CALIFORNIA FISH AND GAME CODE.
SSC = SPECIES OF SPECIAL CONCERN IN CALIFORNIA.

3.4.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the natural resources of the state and nation including the California Department of Fish and Wildlife (CDFW), USFWS, U.S. Army Corps of Engineers (USACE), and the Central Valley Regional Water Quality Control Board (CVRWQCB). These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. The following is an overview of the federal, state and local regulations that are applicable to the proposed Project.

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA), administered by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), provides protection to plant and wildlife species listed as endangered or threatened. In general, USFWS has jurisdiction over terrestrial and fresh-water species, while NMFS has jurisdiction over ocean-going species.

Section 9 of FESA generally prohibits all persons from causing the "take" of any member of a listed species. (16 U.S.C. § 1538.) This prohibition applies mainly to animals; it only extends to plants in areas “under federal jurisdiction” and plants already protected under state law. (Id., subd. (a)(2)(B); see also Northern Cal. River Watch v. Wilcox (9th Cir. 2010) 620 F.3d 1075.)

“Take” is defined in statute as, "... to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." (16 U.S.C. § 1532(19).) Harass is defined in regulation as "...an intentional or negligent act or omission that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering." (See 50 CFR § 17.3.) Harm is defined in regulation as "...significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.” (Id.) Despite the general prohibition against take, FESA in some circumstances permits “incidental take,” which means take that is incidental to, but not the purpose of, the carrying out of an otherwise lawful activity. (16 U.S.C. § 1539(a).) Under section 10 of FESA, persons seeking permission to engage in actions that could result in such incidental take can obtain such permission through the approval of a habitat conservation plan (HCP) by either USFWS or NMFS. (16 U.S.C., § 1539(a).)

Proposed federal actions that would result in take of a federal-listed or proposed species require consultation with USFWS or NMFS under section 7 of FESA. (Id., § 1536.) The objective of consultation is to determine whether the proposed federal action would jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat. Where such an outcome would not occur, USFWS or NMFS must still impose reasonable and prudent measures to minimize the effects of the incidental taking. Where such an outcome could occur, USFWS or NMFS must

propose reasonable and prudent alternatives that, if implemented, would avoid such an outcome. (Id.)

Compliance with ESA can be achieved under Section 7 or 10 of FESA depending on the involvement of the federal government. Section 7 requires federal agencies to make a finding on all federal actions, including the approval by an agency of a public or private action, such as the issuance of a "404 permit" for filling wetlands by the U.S. Army Corps of Engineers (USACE), on the potential of the action to jeopardize the continued existence of any listed species impacted by the action or to result in the destruction or adverse modification of such species' critical habitat. Provisions of Section 10 are implemented when there is no federal involvement in a project except compliance with FESA. A take not specifically allowed by federal permit under Section 7 or Section 10(a)(1)(B) of the FESA is subject to enforcement through civil or criminal proceedings under Section II of the FESA.

Migratory Bird Treaty Act

To kill, possess, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Federal Bald and Golden Eagle Protection Act

The Federal Bald and Golden Eagle Protection Act provide regulations to protect bald and golden eagles as well as their nests and eggs from willful damage or injury.

Clean Water Act – Section 404

Section 404 of the CWA regulates all discharges of dredged or fill material into waters of the U.S. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high-water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

In general, Section 404 of the Clean Water Act requires permits for the discharge of dredged or fill material into waters of the United States, including wetlands. However, certain activities are exempt from permit requirements under Section 404(f)(1). Activities that are exempt under the Clean Water Act, Section 404(f)(1), include:

- Established (ongoing) farming, ranching, and silviculture activities such as plowing, seeding, cultivating, minor drainage, harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices
- Maintenance (but not construction) of drainage ditches
- Construction and maintenance of irrigation ditches
- Construction and maintenance of farm or stock ponds
- Construction and maintenance of farm and forest roads, in accordance with best management practices
- Maintenance of structures such as dams, dikes, and levees

Clean Water Act – Section 401

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the RWQCB. To obtain the water quality certification, the CVRWQCB must indicate that the proposed fill would be consistent with the standards set forth by the state.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. The Act requires authorization from the USACE for any excavation or deposition of materials into these waters or for any work that could affect the course, location, condition, or capacity of rivers or harbors.

STATE

Fish and Game Code §2050-2097 - California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers a number of laws and programs designed to protect fish and wildlife resources. Principal of these is the California Endangered Species Act of 1984 (CESA Fish and Game Code Section 2050 et seq.), which regulates the listing and take of state endangered and threatened species, as well as candidate species. Under Section 2081 of CESA, CDFW may authorize take of an endangered and/or threatened species, or candidate species, by an incidental take permit or Memorandum of Understanding (MOU) for scientific, educational, or management purposes. In approving an incidental take permit, CDFW must ensure, among other things, that "[t]he impacts of the authorized take shall be minimized and fully mitigated." Further, "[t]he measures required to meet this obligation shall be roughly proportional in extent to the impact of the authorized taking on the species. Where various measures are available to meet this obligation, the measures required shall maintain the applicant's objectives to the greatest extent possible. All required measures shall be capable of successful implementation." To be consistent with Federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants, as previously designated under the California Native Plant Protection Act (discussed below). Thus, there are three listing categories for plants in California: rare, threatened,

and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.

Fish and Game Code §2800-2835 – Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning Act is set forth in Fish and Game Code Sections 2800–2835. The intent of the legislation is to provide for conservation planning as an officially recognized policy that can be used as a tool to eliminate conflicts between the protection of natural resources and the need for growth and development. In addition, the legislation promotes conservation planning as a means of coordination and cooperation among private interests, agencies, and landowners, and as a mechanism for multispecies and multi-habitat management and conservation. The development of Natural Community Conservation Plans (NCCPs) is an alternative to obtaining take authorization under Section 2081 of the Fish and Game Code.

Fish and Game Code §1900-1913 – California Native Plant Protection Act

In 1977 the State Legislature passed the Native Plant Protection Act (NPPA) in recognition of rare and endangered plants of the state. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFW 10 days in advance of approving a building site.

Fish and Game Code §3503, 3503.5, 3800 – Predatory Birds

Under California Fish and Game Code section 3503, "[i]t is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Under section 3503.5, "[i]t is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird, except as otherwise provided by this code or any regulation adopted pursuant thereto." Section 3503 allows some destruction of nests or eggs (it cannot be done "needlessly"), while section 3503.5 prohibits such destruction outright. Under section 3800, it is generally unlawful to take "any nongame bird," with some exceptions. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is commonly understood to constitute a take. This generally includes construction activities.

Fish and Game Code §1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFW has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a "Streambed Alteration Agreement" from CDFW prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFW may impose reasonable measures necessary to protect fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and

construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

Fish and Game Code §3511, 3513, 4700, and 5050 – Fully Protected Species

Fish and Game Code Sections 3511, 3513, 4700, and 5050 pertain to fully protected wildlife species (birds in Sections 3511 and 3513, mammals in Section 4700, and reptiles and amphibians in Section 5050) and strictly prohibit the take of these species. CDFW cannot issue a take permit for fully protected species, except under narrow conditions for scientific research or the protection of livestock, or if an NCCP has been adopted.

California Environmental Quality Act Guidelines § 15380 – Unlisted Species Worth of Protection

The CEQA Guidelines provide that a species that is not listed on the federal or state endangered species list may nevertheless be considered rare or endangered if the species meets certain criteria. (CEQA Guidelines § 15380) Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e. candidate, or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. Additionally, the California Native Plant Society (CNPS), a nongovernmental organization, maintains a list of plant species native to California that have low populations, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere.

California Wetlands Conservation Policy

In August 1993, the Governor announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of State and federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.) is California's primary water quality control statute. But its protections extend to wetlands, and in some instances wetlands that are not subject to federal jurisdiction under the Clean Water Act. Under the Porter-Cologne Act definition, waters of the state are "any surface water or groundwater, including saline waters, within the boundaries of the state." (Wat. Code, § 13050[e].) Although all waters of the United States that are within the borders of California are also waters of the state, the reverse is not necessarily true. Therefore, California retains authority to regulate discharges of waste into any waters of the state, discharges to receiving waters more broadly than the CWA does.

Waters of the state fall under the jurisdiction of the nine Regional Water Quality Control Boards (RWQCBs). Under Porter-Cologne, each RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution. California Water Code Section 13260 requires any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements [WDRs]) with the applicable RWQCB. Construction activities that may discharge wastes into the waters of the state must meet the discharge control requirements of the Porter-Cologne Act.

On April 2, 2019, the State Water Resources Control Board (State Water Board) adopted Resolution 2019-0015, thereby adopting a document entitled, "State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State" ("Procedures") for inclusion in the Water Quality Control Plans for Inland Surface Waters, Enclosed Bays, and Estuaries of California.[2]

In taking this action, the State Water Board noted that under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (Wat. Code, Div. 7, § 13000 et seq.), discharges of dredged or fill material to waters of the state are subject to waste discharge requirements or waivers thereof. The State Water Board further explained that "although the state has historically relied primarily on requirements in the Clean Water Act to protect wetlands, U.S. Supreme Court rulings reducing the jurisdiction of the Clean Water Act over wetland areas by limiting the definition of 'waters of the United States' have necessitated the use of California's independent authorities under the Porter-Cologne Act to protect these vital resources."

The Office of Administrative Law (OAL) approved the Procedures on August 28, 2019. Pursuant to the Procedures, the effective date is nine months upon OAL approval. Accordingly, the Procedures will be effective May 28, 2020.

By adopting the Procedures, the State Water Board mandated and standardized the evaluation of impacts and protection of waters of the state from impacts due to dredge and fill activities. The

[2] See: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedures_conformed.pdf

Procedures include: 1) a wetland definition; 2) a jurisdictional framework for determining if a feature that meets the wetland definition is a water of the state; 3) wetland delineation procedures; and 4) procedures for application submittal, and the review and approval of dredge or fill activities.

The Procedures define an area as a wetland if it meets three criteria: wetland hydrology, wetland soils, and (if vegetated) wetland plants. An area is a wetland if: (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Waters of the State, by definition, includes more aquatic features than Waters of the U.S., which defines the jurisdiction of the federal government. Waters of the State are not so limited. In addition, the federal definition of a wetland requires a prevalence of wetland vegetation under normal circumstances. To account for wetlands in arid portions of the state, the State Water Board's definition differs from the federal definition in that an area may be a wetland even if it does not support vegetation. If vegetation is present, however, the State Water Board's definition requires that the vegetation be wetland vegetation. The State Water Board's definition clarifies that vegetated and unvegetated wetlands will be regulated in the same manner.

The Procedures also include a jurisdictional framework that applies to aquatic features that meet the wetland definition. The jurisdictional framework will guide applicants and staff in determining whether an aquatic feature that meets the wetland definition will be regulated as a water of the state. The jurisdictional framework is intended to exclude from regulation any artificially-created, temporary features, such as tire ruts or other transient depressions caused by human activity, while still capturing small, naturally-occurring features, such as seasonal wetlands and small vernal pools that may be outside of federal jurisdiction. The Procedures do not expand the State Water Board's jurisdiction beyond areas already under State Water Board's jurisdiction.

The Procedures exclude the following agricultural features from the protections accorded to wetlands: (1) ditches with ephemeral flow that are not a relocated water of the state or excavated in a water of the state; (2) ditches with intermittent flow that are not a relocated water of the state or excavated in a water of the state, or that do not drain wetlands other than any wetlands described in (4) or (5) below; (3) ditches that do not flow, either directly or through another water, into another water of the state; (4) artificially irrigated areas that would revert to dry land should application of waters to that area cease; or (5) artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, and settling basins.

The Procedures clarify what information and analysis the applicant needs to submit to have a complete application. The Procedures standardize when an alternative analysis needs to be conducted and set a minimum mitigation ratio for any permanent impacts to waters of the state resulting from dredge and fill activities.

When an alternatives analysis is required, the applicant must demonstrate that the proposed alternative is the Least Environmentally Damaging Practicable Alternative (LEDPA). The term

practicable means available and capable of being done after taking into consideration cost, existing technology, and other logistics in light of the overall project purpose.

Water Quality Control Plan for the Sacramento-San Joaquin River Basins

The Water Quality Control Plan for the Sacramento-San Joaquin River Basins (Basin Plan), most recently revised in May 2018 by the CVRWQCB in 1998, identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Sacramento River and San Joaquin River Basins, including the Delta.

State and federal laws mandate the protection of designated "beneficial uses" of water bodies. State law defines beneficial uses as "domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Water Code Section 13050[f]). Additional protected beneficial uses of the San Joaquin River include groundwater recharge and fresh water replenishment.

CDFW Staff Report on Burrowing Owl Mitigation

The CDFW has designated certain species as "species of special concern" when their population viability and survival is adversely affected by risk factors such as precipitous declines or other vulnerability factors (Shuford and Gardali 2008). Preliminary analyses of regional patterns for breeding populations of burrowing owls (*Athene cunicularia*) have detected declines both locally in their central and southern coastal breeding areas, and statewide where the species has experienced modest breeding range retraction (Gervais et al. 2008). In California, threat factors affecting burrowing owl populations include habitat loss, degradation and modification, and eradication of ground squirrels resulting in a loss of suitable burrows required by burrowing owls for nesting, protection from predators, and shelter.

The CDFW recognized the need for a comprehensive conservation and mitigation strategy for burrowing owls, and in 1995 directed staff to prepare a report describing mitigation and survey recommendations. This report, "1995 Staff Report on Burrowing Owl Mitigation" (Staff Report) (CDFG 1995), contained CDFW-recommended burrowing owl and burrow survey techniques and mitigation measures intended to offset the loss of habitat and slow or reverse further decline of this species. Notwithstanding these measures, over the subsequent 15+ years, burrowing owls continued to decline in portions of their range (DeSante et al. 2007, Wilkerson and Siegel, 2010). The CDFW therefore determined that reversing declining population and range trends for burrowing owls required implementation of more effective conservation actions, and evaluate the efficacy of the CDFW's pre-existing recommended avoidance, minimization and mitigation approaches for burrowing owls. As such, the CDFW updated the 1995 Staff Report in 2012.

The CDFW has identified three main actions that together will facilitate a more viable, coordinated, and concerted approach to conservation and mitigation for burrowing owls in California. These include:

1. Incorporating burrowing owl comprehensive conservation strategies into landscape-based planning efforts such as Natural Community Conservation Plans (NCCPs) and multi-species Habitat Conservation Plans (HCPs) that specifically address burrowing owls.
2. Developing and implementing a statewide conservation strategy (Burkett and Johnson, 2007) and local or regional conservation strategies for burrowing owls, including the development and implementation of a statewide burrowing owl survey and monitoring plan.
3. Developing more rigorous burrowing owl survey methods; working to improve the adequacy of impacts assessments; developing clear and effective avoidance and minimization measures; and developing mitigation measures to ensure impacts to the species are effectively addressed at the project, local, and/or regional level (the focus of this document).

The Staff Report on Burrowing Owl Mitigation (2012) sets forth the CDFW's recommendations for implementing the third approach identified above by revising the 1995 Staff Report, drawing from the most relevant and current knowledge and expertise, and incorporating the best scientific information. General strategies for mitigation include the following: designing projects to avoid negative impacts and disturbances that could result in take of burrowing owls, nests, or eggs; conducting take avoidance (pre-construction) surveys to detect the presence of burrowing owls on a project site at a fixed period in time in order to inform necessary take avoidance actions; engaging in site surveillance to ascertain whether burrowing owls may be attempting to colonize or re-colonize an area that will be impacted; minimizing impacts through the use of buffer zones, visual screens, or other measures while project activities are occurring; undertaking minimization measures such as eliminating actions that reduce burrowing owl forage and burrowing surrogates (e.g. ground squirrels); using burrow exclusion measures such as installing one-way doors in burrow openings during the non-breeding season to temporarily exclude burrowing owls, or permanently excluding burrowing owls and closing burrows after verifying the burrows are empty; restoration of temporarily disturbed habitat to pre-project conditions; replacing or otherwise compensating for permanently impacted habitat; and creating artificial burrows to replace natural burrows.

LOCAL

City of Riverbank General Plan

GOAL: COMMUNITY CHARACTER AND DESIGN

- DESIGN-15. Adequate, Safe, Well-Located Public Open Spaces, Parks Facilities, and Access to Features of the Natural Environment.

POLICIES: COMMUNITY CHARACTER AND DESIGN

- DESIGN-15.1. The City will identify land to create an open space system that links, parks, greenbelts, wildlife habitats, the Stanislaus River corridor, channels, and other critical areas. Impacts on the environmental functions of critical areas shall be considered in the development of open space system links.

- DESIGN-15.2. The City will require integration in the design of an open space system natural features that also provide flood protection, wildlife habitat, and other environmental enhancements.
- DESIGN-15.4. The City will require and pursue the preservation and enhancement of public access to riverfront recreation / natural areas while protecting sensitive habitats.

GOALS: CONSERVATION AND OPEN SPACE

- CONS-4. Preserve Habitat Associated with the Stanislaus River While Increasing Public Access.
- CONS-5. Preserve the Natural Diversity in the Riverbank Planning Area.

POLICIES: CONSERVATION AND OPEN SPACE

- CONS-4.1. Approved projects, plans, and subdivisions shall avoid conversion of habitat within the existing Stanislaus River riparian corridor, including Great Valley Mixed Riparian Forest, Great Valley Willow Scrub, and Riparian Scrub areas, and shall preserve an open space buffer along the Stanislaus River and associated riparian areas. The open space buffer shall be designed to avoid impacts to habitat and special status species in the riparian corridor, as specified in Policy CONS 5.1, Policy CONS 5.2, Policy CONS 5.3, and Policy CONS 5.6, based on project specific biological resource assessment. The precise size of buffer from the river and associated riparian corridor is to be determined by site specific analysis. The riparian corridor preservation and open space buffer shall be provided through a permanent covenant, such as a conservation easement and shall also include an ongoing maintenance agreement with a land trust or other qualified nonprofit organization. The preservation of the riparian corridor and ongoing maintenance agreement is required prior to City approval of any subdivision of property or development project located in areas outside City limits as of January 1, 2007 (see Figure CONS-1). Low-impact recreation could be allowed in this buffer area to the extent that impacts to these sensitive habitats are avoided or fully mitigated by demonstrating no net loss of habitat functions or value. Urban development shall not be allowed in this buffer area.
- CONS-4.2. Approved projects, plans, and subdivisions shall provide for collection, conveyance, treatment, detention, and other stormwater management measures in a way that does not decrease water quality or alter hydrology in the Stanislaus River or associated groundwater recharge areas.
- CONS-4.3. The City will require compliance with the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan for projects to expand Jacob Myers Park, or other projects within San Joaquin County, as applicable.
- CONS-5.1. Approved projects, plans, and subdivisions shall avoid urban development of the existing Stanislaus River riparian corridor and other habitat that is rare, declining, unique, or supportive of special-status species.
- CONS-5.2. Development applications involving areas with important habitat shall submit site plans that specifically show how development will avoid impacts to habitat that is rare, declining, unique, or supportive of special-status species.

- CONS-5.3. The City will require the use of clustering to avoid important habitat areas.
- CONS-5.4. When the loss of important habitat is unavoidable, mitigation measures will be designed to reduce impacts to the maximum extent feasible. This mitigation may include, but is not limited to off-site mitigation banking with restoration and enhancement components. For projects that would affect the function and value of river, stream, lake, pond, or wetland features, each of these features shall be delineated. For wetlands, the delineation shall be conducted in accordance with the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and verified by USACE. The Project applicant shall determine the exact acreage of important habitat (including those protected by federal, state, regional, and/or local regulations) that would be impacted by project implementation. A mitigation plan to replace or rehabilitate affected habitats in a manner that ensures no net loss of habitat functions and values shall be prepared and implemented in accordance with applicable regulations. The plan shall be reviewed and approved by the appropriate regulatory agencies and all relevant permits and authorizations shall be obtained. Mitigation monitoring shall be conducted to ensure performance criteria are met.
- CONS-5.5. Approved projects, plans, and subdivisions shall comply with applicable federal and state laws and regulations (e.g., federal and state endangered species acts and California Fish and Game Code) that require the protection of special-status species.
- CONS-5.6. For all development projects involving discretionary review that have the potential to affect special status species, the Project applicant shall be required to perform a reconnaissance level assessment of the Project Area for special-status species and their habitat. For projects with the potential to have a substantial adverse effect on special-status species, their habitats, or movement corridors, or result in the fragmentation of their habitats, a Biological Inventory Report shall be prepared by a qualified biologist, to determine if, and to what extent special-status species and their habitat may be affected by a proposed project. Projects shall be designed to avoid disturbance or fragmentation of important habitats and wildlife movement corridors. For projects where avoidance is not possible, the Project applicant shall be required to fully mitigate the effects of the development on special-status species, and the loss and/or fragmentation of their habitat.
- CONS-5.7. A mitigation plan shall be prepared and reviewed and approved by the appropriate regulatory agencies for projects where avoidance of adverse effects to special-status species is not feasible, and authorization for take of listed species shall be obtained, if necessary. The mitigation plan shall include measures to minimize potential for effects during project construction (e.g., pre-construction surveys and timing of construction) and measures to compensate for loss of special-status species habitat. Loss of Swainson's hawk foraging habitat shall be compensated for by preservation and management of foraging habitat of at least a similar quality at an appropriate location. Mitigation plans shall identify an appropriate mitigation site, compensation acreage, performance criteria, and monitoring and management requirements to ensure the site provides suitable habitat for the applicable species. Long-term protection of mitigation lands shall be ensured through fee title acquisition, conservation easement, or other suitable mechanisms. Long-term management of mitigation lands shall be ensured by establishing a management endowment or other suitable funding source. Alternatively, it may be appropriate to

contribute funds to existing mitigation programs. Use of such a program shall be approved by the appropriate regulatory agencies.

Low Impact Development Design and Specifications Manual

The City of Riverbank adopted a Low Impact Development Design and Specifications Manual to assist developers in meeting State and local mandates for storm water drainage. All new construction projects in the City of Riverbank are classified in the Low Impact Development Design and Specifications Manual based on their intended use (i.e., residential, parking areas, etc.). The following design standards must be implemented for all project classifications:

- Mitigate peak run-off flow rates
- Conserve and create natural areas
- Minimize storm water pollutants of concern
- Protect slopes and channels
- Provide storm drain stenciling and signage
- Properly design outdoor material and trash storage areas
- Provide proof of ongoing BMPs and maintenance
- Incorporate treatment control BMPs for water quality

City of Riverbank Municipal Code

Chapter 156, Oak and Landmark Tree Preservation, of the Riverbank Municipal Code calls for the conservation and protecting of existing landmark trees and oak trees within the City. Landmark trees are defined under Section 156.02 of the Code as: Trees that are: (1) six inches or greater in diameter at breast height (DBH); (2) in good health; and (3) of preferred species in order: (a) oak, (b) deciduous and (c) evergreen; (4) other such trees with significant impact (including but not limited to: age, size, location, outstanding habitat value, superior beauty, historical and/or cultural significance) on the surrounding area. Landmark Tree may also mean an "oak tree." Fruit trees and other trees used for agricultural purposes and production on existing lots created prior to June 8, 2006, are specifically excluded as being landmark trees. Additionally, oak trees are defined as A valley oak tree (*Quercus lobata*) with a trunk diameter of two inches or greater at a point 4.5 feet above the root crown (also referred to as "two inches diameter breast height [DBH]"). Oak tree may also mean a "landmark tree."

Section 156.14 of the Code outlines methods and standards for tree protection during construction activities. Section 156.10 notes that removal, destruction, mutilation, poisoning, or other attempts to kill a landmark/oak tree in the City is prohibited without a tree conservation permit. Prior to issuance of the tree removal permit, the property owner will be required to pay a permit fee and submit the appropriate cash bond to insure tree replacement. As a condition of the tree conservation permit, a Project applicant shall submit a cash bond equal to the cost of the conservation efforts outlined in the adopted plan, as determined by the City. The bond shall be held for the purpose of assuring that the conservation efforts are implemented. If it is determined that practices violating any portion of the municipal code have resulted in tree damage, then the city may require that a cash bond, equal to the replacement value of the damaged tree(s), be submitted. The bond shall be held for the purpose of assuring that all remedial actions required by the city to

minimize tree damage are taken, and/or for the purpose of assuring tree replacement should any damaged trees die or show noticeable signs of decline, as determined by a certified arborist, within a designated period of evaluation.

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

CEQA Guidelines Appendix G is a sample Initial Study checklist that includes a number of factual inquiries related to the subject of biological resources, as it does on a whole series of additional environmental topics. Notably, lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance on the subject of air quality impacts, or indeed on any subject addressed in the checklist. (*Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, 1068.) Rather, with few exceptions, "CEQA grants agencies discretion to develop their own thresholds of significance." (*Ibid*.) Even so, it is a common practice for lead agencies to take the language from the inquiries set forth in Appendix G and to use that language in fashioning thresholds. The City has done so here, though it has exercised its discretion to modify the language of the Appendix G threshold addressing impacts to wetlands so that it applies not only to federally-protected wetlands, but also to wetlands that are protected under State law (the reach of which is sometimes broader than federal law).

Although CEQA generally gives agencies considerable discretion in fashioning significance thresholds, there are some thresholds that must, as a matter of law, be used by public agencies. Many of these relate to biological resources, and are found in CEQA Guidelines section 15065 ("Mandatory Findings of Significance").

Finally, the City is aware that neither Appendix G nor section 15065 sets forth language directly addressing potential effects on birds of prey or nesting birds due to violation of laws (described earlier) intended to protect them. The City has therefore exercised its discretion to formulate a threshold to address this particular category of impact.

In light of the foregoing, for purposes of this EIR, a significant impact would occur if implementation of the Specific Plan would:

- Substantially reduce the habitat of a fish or wildlife species;
- Cause a fish or wildlife population to drop below self-sustaining levels;
- Threaten to eliminate a plant or animal community;
- Substantially reduce the number or restrict the range of an endangered, rare or threatened species;
- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally - or state- protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan;
- Result in the take or destruction of any nesting birds or birds of prey or the nest or eggs of such birds.

IMPACTS AND MITIGATION

Impact 3.4-1: The potential to have a substantial direct or indirect effect on special-status invertebrate species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed species, elimination of an animal community, or a drop in population levels below self-sustaining levels. (Less than Significant with Mitigation)

According to the CNDDB, there are nine special-status invertebrates that are documented within the nine-quadrangle Project region, including: California linderiella (*Linderiella occidentalis*), Crotch bumble bee (*Bombus crotchii*), midvalley fairy shrimp (*Branchinecta mesovallensis*), Molestan blister beetle (*Lytta molesta*), Obscure bumble bee (*Bombus caliginosus*), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Vernal pool fairy shrimp (*Branchinecta lynchi*), Vernal pool tadpole shrimp (*Lepidurus packardi*), and Western bumble bee (*Bombus occidentalis*). According to the USFWS IPAC, there are two special status invertebrates that are known within region, including: Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (also in the CNDDB), and Monarch butterfly – California overwintering population (Danaus plexippus).

Field investigations were performed in the Berghill Boundary and the Offsite Sewer Line in December 2019 and March, May, and June 2020 by Principal Biologist Steve McMurtry. Areas not accessible for a full coverage field survey were assessed from the public right-of-way, and from the private roads that access the Berghill parcels.

The potential to have a substantial direct or indirect effect on special-status invertebrate species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed species, elimination of an invertebrate community, or a drop in population levels below self-sustaining levels, is discussed below.

VERNAL POOL INVERTEBRATES

California linderiella (*Linderiella occidentalis*) and midvalley fairy shrimp (*Branchinecta mesovallensis*) exclusively inhabit vernal pools or other seasonally ponded wetlands that sustain inundation during the winter before drying in the late spring. The Project Area, including the Offsite Sewer Line, does not provide suitable habitat for this species.

Vernal pool fairy shrimp (VPFS) is a federal threatened invertebrate found in the Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. They are commonly found in vernal pools and in sandstone rock outcrop pools. VPFS is not anticipated to be directly affected by any individual phase or component of the proposed Project because there is not appropriate vernal pool habitat in the Project Area, including the Offsite Sewer Line.

Vernal pool tadpole shrimp (VPTS) is a federal endangered invertebrate found in vernal pools and stock ponds from Shasta County south to Merced County. VPTS is not anticipated to be directly affected by any individual phase or component of the proposed Project because there is not appropriate vernal pool habitat in the Project Area, including the Offsite Sewer Line.

BEES

Obscure bumble bee (*Bombus caliginosus*), crotch bumble bee (*Bombus crotchii*), western bumble bee (*Bombus occidentalis*) may occur in the region, and in the Project Area at times. These species are tracked by CDFW, but are not specifically protected under state or federal law.

This obscure bumble bee is an uncommon bee species found near the west coast of North America from Canada to California, and within the eastern part of the Central Valley. Their natural habitat is open grassy coastal prairies and Coast Range meadows. They have been observed on 19 families of plants, with most bees observed on plants of the legume, heather, or sunflower family. They are also known to be an effective pollinator on plants such as tomatoes, blueberries, and others.

The crotch bumble bee occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern California. It also occurs in Mexico (Baja California and Baja California Sur) and has been documented in southwest Nevada, near the California border. Their natural habitat is grassland and scrub areas, requiring a hotter and drier environment than other bumblebee species. This species can only tolerate a very narrow range of climatic conditions. This is a non-migratory species of bumble bee that nests underground, often in abandoned rodent dens.

The western bumble bee was once one of the most common bee species in the North West America. They have been found from the Mediterranean California all the way up to the Tundra regions of Alaska, making them one of the bees with the widest range geographic range. In the past decade, the population of has dropped over 40% and has been especially significant in the Pacific states from California to Washington. Declines have been attributed to a parasite, as well as an increase in the honeybees. Their natural habitat is shrubland, grassland, and artificial/terrestrial areas. They have been observed on a wide variety of plans in open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows. This species is considered to be a more effective pollinator

than honeybees and they have been commercially reared to pollinate crops such as alfalfa, avocados, apples, cherries, blackberries, cranberries, and blueberries.

Although not "natural habitat", the existing agricultural fields and orchards provide habitat for these bumble bee species. It is noted, however, that habitat for bumble bee species would be provided after development on-site within yard areas, park areas, and along the River corridor, with the western bumble bee most likely to utilize these areas.

BEETLES

Essential habitat for Molestan blister beetle is not present in the Project Area. The proposed project is not expected to have a significant impact on these species.

Valley elderberry longhorn beetle (VELB) is a federal threatened insect, proposed for delisting. Elderberry (*Sambucus* sp.), which is a primary host species for valley elderberry longhorn beetle (VELB) is a common plant found throughout the region, but especially in riparian zones. Three occurrences of VELB have been documented within one mile of the Project Area: 0.1 miles west, 0.75 miles west, and 0.5 miles east. There are no elderberry plants located within the agricultural fields, or otherwise in areas that would be developed. There are elderberry plants in some areas designated for open space (notably along the Stanislaus River), which means these areas will not be directly impacted. Elderberry plants located within the Stanislaus River riparian corridor will not be disturbed.

BUTTERFLIES

The Monarch butterfly (*Danaus plexippus*) is a candidate species and not yet listed or proposed for listing. Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. The black border has a double row of white spots, present on the upper side of the wings. In many regions where monarchs are present, monarchs breed year-round. Individual monarchs in temperate climates, such as eastern and western North America, undergo long-distance migration, and live for an extended period of time. In the fall, in both eastern and western North America, monarchs begin migrating to their respective overwintering sites. This migration can take monarchs distances of over 3,000 km and last for over two months. In early spring (February-March), surviving monarchs break diapause and mate at the overwintering sites before dispersing. The same individuals that undertook the initial southward migration begin flying back through the breeding grounds and their offspring start the cycle of generational migration over again. In California Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts are located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. There are no overwintering sites documented in the regional vicinity; however, this species may occur in the region, and in the Project Area at times during migration or after overwintering on the coast.

CONCLUSION

Habitat for California linderiella (*Linderiella occidentalis*), midvalley fairy shrimp (*Branchinecta mesovallensis*), Molestan blister beetle (*Lytta molesta*), Vernal pool fairy shrimp (*Branchinecta*

lynchi), and Vernal pool tadpole shrimp (*Lepidurus packardi*), is not found on-site. In its comments on the Notice of Preparation, the California Department of Fish and Wildlife did not identify any of these species as ones that might occur in the Project area.

Potential habitat for obscure bumble bee (*Bombus caliginosus*), crotch bumble bee (*Bombus crotchii*), and western bumble bee (*Bombus occidentalis*) is found on-site. Additionally, three occurrences of VELB have been documented within one mile of the Project Area: 0.1 miles west, 0.75 miles west, and 0.5 miles east. The Specific Plan is designed to place new development in areas that are previously disturbed by agricultural activity, and to conserve those areas that are largely undisturbed (i.e., riparian corridor along the Stanislaus River and bluff area). There are no elderberry plants located within the agricultural fields that are planned for development. Elderberry plants are located within the Stanislaus River riparian corridor, but will remain as open space and will not be disturbed. The Offsite Sewer Line will not directly disturb elderberry plants. VELB will not be affected by the proposed Project.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-1: *Prior to disturbance of each village, the Project applicant shall conduct a survey of the area to be disturbed for VELB habitat (elderberry), and if present, including a stem count and an assessment of VELB use (presence of bore holes);*

- *All VELB habitat should be avoided within a natural open space area except where such habitat is located either within the Project's approved development footprint or in an area that must be disturbed in order to facilitate approved development; and*
- *Where elderberry shrubs occupied with VELB cannot be avoided because it is located either within the Project's approved development footprint or in an area that must be disturbed in order to facilitate approved development, then the applicant shall notify the City and consult with USFWS in order to develop a VELB mitigation plan in accordance with the most current USFWS mitigation guidelines for unavoidable take of VELB habitat pursuant to either Section 7 or Section 10(a) of the Federal Endangered Species Act. At a minimum, the removal of elderberry shrubs found to be occupied with VELB shall be mitigated through the purchase of one (1) VELB mitigation credit from an agency-approved mitigation bank for each occupied shrub removed or through the planting of five (5) elderberry seedlings and five (5) native California trees or shrubs at a USFWS-approved location for each shrub removed. If the latter option is selected, then the seedlings and associated natives shall achieve an 80% survival rate measured at the end of a five (5) year monitoring period.*

Mitigation Measure 3.4-2: *The Project applicant shall implement the following measure to avoid or minimize impacts on special-status bumble bees:*

- *A qualified biologist(s) shall conduct a preconstruction survey with seven (7) days of the commencement of work. If special-status bees of any species are observed, they shall be photographed for identification. If construction begins between March 1 and November 1, the ground shall also be searched during the survey for active bumble bee colonies. If bee colonies are identified, these colonies shall be demarcated with a flagged avoidance buffer,*

as determined by a qualified biologist and shall be avoided during the active season from March 1 through November 1, or until the qualified biologist has determined that the colony is no longer active or until the colony is relocated.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation Measure 3.4-1 requires a preconstruction survey for VELB habitat and avoidance and compensatory mitigation measures should habitat be found. Mitigation Measure 3.4-2 requires preconstruction survey for special-status bumble bees and avoidance and mitigation measures should bumble bees be found. With implementation of the above mitigation measures, the proposed Project would have a ***less than significant*** impact on special-status invertebrate species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed species, elimination of an invertebrate community, or a drop in population levels below self-sustaining levels.

Impact 3.4-2: The potential to have substantial direct or indirect effects on special-status reptile and amphibian species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed species, elimination of a reptile or amphibian community, or a drop in population levels below self-sustaining levels. (Less than Significant with Mitigation)

According to the CNDDB, there are five special-status amphibian and reptile species that are documented within the nine-quadrangle Project region, the: California tiger salamander (*Ambystoma californiense [A. tigrinum c.]*), western spadefoot (*Spea hammondii*), western pond turtle (*Emys marmorata*), giant gartersnake (*Thamnophis gigas*), and northern California legless lizard (*Anniella pulchra*). According to the USFWS IPAC, there are three special status amphibian and reptile species that are known within region, including: California tiger salamander (*Ambystoma californiense [A. tigrinum c.*) and giant gartersnake (*Thamnophis gigas*) (both of which are in the CNDDB), and California red-legged frog (*Rana aurora draytoni*). The potential to have a direct or indirect substantial effect on special-status reptile and amphibian species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed species, elimination of a reptile or amphibian community, or a drop in population levels below self-sustaining levels, is discussed below.

CALIFORNIA RED-LEGGED FROG

The federally-listed Threatened and California Species of Special Concern California red-legged frog (CRLF) occurs in lowlands and foothills primarily in perennial or ephemeral ponds, pools, and streams where water remains long enough (14 to 28 weeks) for breeding and metamorphosis of tadpoles. Specific breeding sites include streams, creeks, ponds, marshes, sag ponds, deep pools, backwater areas, dune ponds, lagoons, and estuaries. Habitats with the highest densities of CRLF often contain dense emergent or shoreline riparian vegetation closely associated with fairly shallow (< 0.5 meter) to deep (> 0.5 meter), still or slow-moving water (USFWS 2002). CRLF may disperse from their aquatic breeding habitats to upland habitats during the dry season. They prefer upland

habitats that provide moisture to prevent desiccation and protection from predators including downed logs, woody vegetation, boulders, moist leaf litter, or other refugia during the dry season. When there is sufficient water at their breeding location, they may remain in aquatic habitats year-round instead of moving to adjacent uplands. During wet seasons, frogs can move long distances between habitats, traversing upland areas or ephemeral drainages. Dispersal distances are typically less than 0.5 km (0.3 mile), with a few individuals moving 2.0 to 3.6 kilometers (1.2 to 2.2 miles). Seeps and springs in open grasslands can function as foraging habitat or refugia for wandering frogs (Jennings and Hayes 1994). In its comments on the Notice of Preparation, the California Department of Fish and Wildlife did not identify this species as one that might occur in the Project area.

The CNDDB does not identify any occurrences for CRLF within nine quads. Absent any known occurrences or quality habitat, this species is not anticipated to be present.

CALIFORNIA TIGER SALAMANDER

The California tiger salamander (CTS) (*Ambystoma californiense*) requires a combination of aquatic breeding habitat and upland estivation habitat within approximately one mile of each other. There are 14 documented occurrences of CTS within a nine-quad search radius, three of which are located within seven miles of the Project Area. The irrigation ditches are seasonally wet, but this is typically associated with the irrigation season. Upland habitat is present in the bluff area, which is anticipated to be conserved as open space. The Stanislaus River is not appropriate aquatic breeding habitat because of the predator population. There are no documented occurrences of this species within the boundary of the Project Area, or the Offsite Sewer Line. The existing conditions of the agricultural irrigation ditches are generally not appropriate aquatic breeding habitat for this species because they do not receive irrigation water during the winter rainy season, which is the breeding season. As such, the irrigation ditches are largely dry during the breeding season which inhibits successful breeding. Additionally, there is very limited upland in the vicinity that is not regularly disturbed (i.e., tilled, disced, deep ripped) in association with the agricultural activities. Absent any habitat, this species is not anticipated to be present and there are no records or other evidence of presence. In its comments on the Notice of Preparation, the California Department of Fish and Wildlife did not identify this species as one that might occur in the Project area.

GIANT GARTER SNAKE

The giant garter snake (*Thamnophis gigas*) is a federal and state listed threatened species. Essential giant garter snake habitat components consist of 1) adequate water during early spring through mid-fall to provide prey base and cover, 2) emergent wetland vegetation for escape cover and foraging habitat, 3) uplands for basking and retreat sites, and 4) higher elevation upland for cover and flood refugia. The USFWS considers areas within 200 feet of aquatic habitat to represent potential upland habitat. Additionally, the USFWS identifies various levels of impact to giant garter snake habitat, from temporary to permanent, and applies mitigation requirements accordingly. The closest occurrence of this species is approximately 13 miles northwest of the Project Area near Farmington. There are no CNDDB records of this species in Stanislaus County. Nevertheless, appropriate habitat is present in the Stanislaus River and irrigation ditches. In its comments on the Notice of Preparation,

the California Department of Fish and Wildlife did not identify this species as one that might occur in the Project area.

NORTHERN CALIFORNIA LEGLESS LIZARDS

The Northern California legless lizards (NCLL) (*Anniella pulchra*) are found from western central California (San Joaquin and the coastal regions), through northwestern Baja California, and as far south as Colonia Guerrero, Mexico. This species prefers sandy or loose loamy soils under sparse vegetation. Soil moisture is essential as they prefer soils with a high moisture content. The Project Area, including the Offsite Sewer Line, does not contain suitable habitat for this species. In its comments on the Notice of Preparation, the California Department of Fish and Wildlife did not identify this species as one that might occur in the Project area.

WESTERN SPADEFOOT

Western spadefoot (WS) (*Spea hammondii*), a California Species of Special Concern, occurs primarily in grassland habitats, but can also be found in valley-foothill hardwood woodlands. The western spadefoot requires shallow, temporary pools or streams during breeding season and egg-laying. Where natural vernal pools are absent, western spadefoots may make use of artificial ponds and stock tanks. Most of the year, western spade foots reside in burrows at depths of up to 3 feet. Adult western spadefoot movement is limited to rainy or humid nights during the breeding season; adults are rarely found on the surface at other times of the year. This species feeds mainly on invertebrates such as insects and worms. There are no CNDDB records of this species within five miles of the Project Area. Additionally, appropriate habitat for this species is limited within the Project Area, and this species has a low potential to occur on-site. In its comments on the Notice of Preparation, the California Department of Fish and Wildlife did not identify this species as one that might occur in the Project area.

WESTERN POND TURTLE

The western pond turtle (*Clemmys marmorata*) is known to occur in aquatic habitats, such as streams, ponds, freshwater marshes, and lakes. They require still or slow-moving water with instream emergent woody debris, rocks, or other similar features for basking sites. The Stanislaus River and the riparian area potentially-suitable aquatic habitat for this species. The irrigation ditches also provide some limited aquatic habitat, and this area could be used for dispersal. This species typically nests on unshaded upland slopes in dry substrates with clay or silt soils. The levee that separates the riparian area from the agricultural area could provide suitable nesting sites and upland refuge due to its current unmaintained condition. There are some weed abatement activities that occur periodically on the levees, but the levee is not maintained at a high frequency. The bluff area could also serve as upland habitat. The levee on the north side of the Stanislaus River in the area of the Offsite Sewer Line is more maintained and less likely to provide nesting habitat for this species. However, there is a large gap between the edge of the riparian canopy and the levee. In this area, there this is tall grass and shrub vegetation with some open areas that could provide nesting opportunities. This species is known throughout the region, and there is some potential to be present within the Project Area and Offsite Sewer Line. The design of the Specific Plan places

development in areas that largely avoid areas where this species could occur such as the Stanislaus River, riparian edge, levee, and bluff area. The agricultural fields are less likely to have this species present given the intensive disturbance and lack of appropriate nesting vegetation. Preconstruction surveys would, however, be necessary to ensure that no individuals are dispersing through the construction zone during construction. In its comments on the Notice of Preparation, the California Department of Fish and Wildlife did not identify this species as one that might occur in the Project area.

CONCLUSION

The proposed Project is not anticipated to affect CRLF, CTS, NCLL, or WS because appropriate habitat is not present. The Stanislaus River, riparian area, and irrigation ditches provide both aquatic and upland habitat for two special status species: giant garter snake and western pond turtle. The Stanislaus River and riparian area will remain as open space and will not be disturbed. The western pond turtle is a relatively common species in the region and the potential for presence is relatively high. On the other hand, giant garter snake is an uncommon species in Stanislaus County, and is not expected to be present regardless of aquatic or upland habitat in the Project Area and Offsite Sewer Line. These species have not been observed in the Project Area, or in the immediate vicinity.

Filling the irrigation ditches and the land immediately adjacent to the irrigation ditches would present a potential impact to western pond turtle if they are present at the time of construction. Preconstruction surveys would be necessary to ensure that no individuals are present in the construction zone during construction. Implementation of the following mitigation measures would reduce potential impacts to special status species to a ***less than significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-3: *Prior to grading of each village, the Project applicant shall conduct a survey of the area to be graded for western pond turtle, and if present, the Project applicant shall implement the following measures to avoid or minimize impacts on western pond turtle:*

- *A preconstruction survey for western pond turtles within aquatic habitats and adjacent suitable uplands to be disturbed by project activities shall be conducted by a qualified biologist. In aquatic habitats which may be dewatered during project construction, surveys shall be conducted immediately after dewatering and before any subsequent disturbance. Elsewhere, surveys shall be conducted within 24 hours before project disturbance.*
- *If pond turtles are found during preconstruction surveys, a qualified biologist, in consultation with CDFW, shall move the turtles to the nearest habitat of equivalent or greater value (e.g., upland habitats may include riparian wetlands or riparian woodlands, and aquatic habitats may include irrigation ditches or the Stanislaus River) outside the area subject to project disturbance. The construction area shall be reinspected whenever a lapse in construction activity of 2 weeks or more has occurred.*
- *Construction personnel performing activities within aquatic habitats and adjacent suitable uplands to be disturbed by project activities shall receive worker environmental awareness*

training from a qualified biologist to instruct workers to recognize western pond turtle, their habitats, and measures being implemented for its protection.

- *Construction personnel shall observe a 15-miles-per-hour speed limit on unpaved roads.*

Mitigation Measure 3.4-4: *The Project applicant shall implement the following measures to avoid or minimize impacts on giant garter snake (GGS):*

- *In areas within 200 feet of any irrigation ditch (potential GGS aquatic habitat) construction will occur during the GGS active season of May 1 through October 1.*
- *Construction personnel shall receive worker environmental awareness training to instruct workers to recognize giant garter snake and their habitats.*
- *Within 24 hours before construction activities, areas within 200 feet of any irrigation ditch (potential GGS aquatic habitat) shall be surveyed for giant garter snake. The survey shall be repeated if a lapse in construction activity of 2 weeks or greater has occurred. If a giant garter snake is encountered during construction, activities within 200 feet of the irrigation ditches shall cease until appropriate corrective measures have been completed or it is determined by the qualified biologist and City staff, in coordination with USFWS and CDFW, that the giant garter snake shall not be harmed. Appropriate corrective actions could involve installation of exclusion fencing, a full-time monitor, establishing a "tractor keep out zone", or other measures specifically designed by the biologist based on the circumstances of the construction site. Any sightings or incidental take shall be reported to USFWS and CDFW immediately.*
- *A biological onsite monitor will be present during initial ground-disturbing activities within 200 feet of any irrigation ditch or potential GGS habitat within the Plan Area*
- *Construction vehicles would require low-speed limits within such sites to lessen the probability that the species could be run over by vehicles and equipment.*
- *Any aquatic habitat for the snake that is dewatered shall remain dry for at least 15 consecutive days after April 15 and before excavating or filling of the dewatered habitat. If complete dewatering is not possible, potential snake prey (e.g., fish and tadpoles) will be removed so that snakes and other wildlife are not attracted to the construction area.*
- *Giant garter snake aquatic habitat to be avoided (i.e., irrigation ditches) within or adjacent to construction areas will be fenced and designated as environmentally sensitive areas. These areas shall be avoided by all construction personnel.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation Measure 3.4-3 requires a survey of the area for western pond turtle, and if present, the Project applicant would implement measures to avoid or minimize impacts on individuals of that species. Mitigation Measure 3.4-4 requires avoidance and mitigation measures for giant garter snake. Implementation of the above mitigation measures would ensure that potential impacts to special status amphibians and reptiles are reduced to a ***less than significant*** level. There would be no substantial direct or indirect effects on any special-status reptile or amphibian species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the

range of a listed species, elimination of a reptile or amphibian community, or a drop in population levels below self-sustaining levels.

Impact 3.4-3: The potential to have substantial direct or indirect effects on special-status bird species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed species, elimination of a bird community, or a drop in population levels below self-sustaining levels. (Less than Significant with Mitigation)

Special-status birds that are documented in the CNDDB within the nine-quadrangle Project region include: burrowing owl (*Athene cunicularia*), great blue heron (*Ardea herodias*), Swainson's hawk (*Buteo swainsoni*), cackling (Aleutian Canada) goose (*Branta hutchinsii leucopareia*), Tricolored blackbird (*Agelaius tricolor*), snowy egret (*Egretta thula*), and yellow-breasted chat (*Icteria virens*). The Project Area may provide suitable foraging habitat for a variety of potentially occurring special-status birds, including those listed above. Potential nesting habitat is present in a variety of trees located within the Project Area and in the vicinity. There is also the potential for other special-status birds that do not nest in this region and represent migrants or winter visitants to forage in the Project Area.

The potential to have substantial direct or indirect effects on special-status bird species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed species, elimination of a bird community, or a drop in population levels below self-sustaining levels, is discussed below.

BURROWING OWL

Burrowing owl (*Athene cunicularia*) is a ground nesting raptor species that is afforded protection by CDFW as a species of special concern due to declining populations in the Great Central Valley of California. They typically inhabit open grasslands and nest in abandoned ground squirrel burrows, cavities associated with raised mounds, levees, or soft berm features. The nearest CNDDB occurrences are located approximately 1.5 miles southeast of the Project Area. There are other documented occurrences within the region, and this species is generally common in undeveloped areas, but can also be found along the fringe of development when the appropriate habitat is present.

The majority of the Specific Plan Area is actively cultivated and lacks active ground squirrel burrows. While the orchards generally have less ground disturbance, they are not high-quality foraging habitat for this species, as burrowing owl prefers more open environments with good visibility. The non-orchard fields, on the other hand, can be good foraging opportunities depending on the growth cycle and type of crop grown. For instance, early vegetative growth periods, or crops that are low growing vegetation, provide good foraging habitat for this species, while later vegetative growth periods with taller and denser crops do not provide good foraging habitat for this species. Most recently, much of the Berghill Property has been cultivated in either orchards, or watermelons. Watermelon fields have a dense and tall vegetation layer in the later stages of their growing cycle which is not ideal for burrowing owl. The quality of foraging habitat for burrowing owl within the

agricultural fields is anticipated to vary by year, and is directly correlated to the agricultural activity during that year.

There is adequate habitat for nesting/burrows in a variety of locations within the Specific Plan Area. This includes: 1) the bluff area, which largely encircles the Berghill property and it fairly undisturbed, 2) the levee, which has not been maintained as a flood protection facility and has evidence of small mammal burrows, and 3) debris piles/equipment storage areas, which typically lack ground disturbance although they have more frequent human activity. Cultivated fields provide foraging habitat for burrowing owls during the early spring, but as vegetation becomes denser, foraging becomes less optimal for this species.

The Offsite Sewer Line provides some limited habitat for burrowing owl, mostly for perching and foraging along the levee. The levee, however, was well maintained and lacked evidence of small mammal burrows. The riparian areas between the Stanislaus River and the levee, provide no quality habitat for this species. Land to the north of the levee is under a variety of agricultural production, including orchards and row crop.

The Berghill Property and Offsite Sewer Line was evaluated for presence of burrowing owl. There were no burrowing owls observed during the field surveys. While there were ground squirrel burrows in a variety of locations, most notably along the levee within the Specific Plan Area, there were no burrows that enlarged enough to be occupied by burrowing owls. Overall, there was no recent sign of burrowing owl observed within the Berghill Property or the Offsite Sewer Line. As long as the agricultural fields continue to operate under intensive agricultural activity (intensive ground disturbance), it is highly unlikely that a burrowing owl could establish a burrow within those fields. However, this species is generally common in the region, it is highly mobile and opportunistic, and could establish occupancy within the Specific Plan Area in future years if agricultural activity were to change. Additionally, the areas along the bluff and levee could become occupied by burrowing owl in future seasons.

The Specific Plan is not anticipated to have a direct impact on burrowing owl; however, there would be an indirect impact through the loss of habitat. Burrowing owl has not been observed, and much of the Specific Plan to be developed is generally not high-quality habitat for this species given that it is mostly orchards. The areas that are potential habitat for nesting burrowing owl are generally along the levee and the bluff area, as well as along some of the field edges. It is also possible that burrowing owl could forage in some of the fields during early vegetative growth, or after discing operations.

SWAINSON'S HAWK

Swainson's hawk (*Buteo swainsoni*) is a raptor species currently listed as threatened in California by the CDFW. Breeding pairs typically nest in tall cottonwoods, valley oaks, or willows associated with riparian corridors, grassland, irrigated pasture, and cropland with a high density of rodents. The Central Valley populations breed and nest in the late spring through early summer before migrating to Central and South America for the winter.

Figure 3.4-5 illustrates the potential nesting habitat for Swainson's hawk, along with foraging habitat. There is an estimated 83.37 acres of Swainson's hawk nesting habitat throughout the Project site, all of which is associated with the riparian habitat along the Stanislaus River, and the mature oak trees located along the bluff. Most of the nesting habitat is planned to be preserved, with the exception of 3.31 acres that would be impacted. The nesting habitat that would be impacted is located in three areas along the bluff where an access road would be constructed. These areas have been surveyed for nests, and there were no active nests, or remnants of past nests in these locations. The riparian and bluff areas are discussed further below.

The riparian habitat along the Stanislaus River contains extensive mature trees that are appropriate nesting habitat for Swainson's hawk. There is a documented Swainson's hawk nest located in the northwestern portion of the Project Area (1995 CNDDB record). It is noted that none of the riparian habitat along the Stanislaus River is anticipated to be disturbed as part of the Specific Plan, rather, this area is designed for Buffer/Greenway/Open Space.

There is a second documented occurrence located approximately 1.2 miles to the northeast of the Project Area near the wastewater treatment plant (2003 CNDDB record). This documented occurrence is not proximate to the Specific Plan Area. This location will not be disturbed.

There is an extensive amount of large mature oak trees located along the bluff area that encircles the Berghill Property. While no Swainson's hawk nests have been documented, and none were observed in this area, the trees are appropriate for nesting Swainson's hawk. Similar to the mature trees in the riparian habitat, the oak tree habitat in the bluff area is anticipated to remain undisturbed as part of the Specific Plan. This area is designated for Buffer/Greenway/Open Space. The exception is area where the three access roads will enter the Berghill Property. These three areas will require removal of some oak tree habitat, which includes the removal of some mature oak trees. There were no Swainson's hawk nests observed in the mature trees in these locations.

It is noted that the small orchard trees are not appropriate nesting trees for this species. Additionally, the orchards do not serve as foraging habitat for this species. The non-orchard fields, on the other hand, can be good foraging opportunities for this species. Swainson's hawk foraging habitat is estimated to be 365.91 acres, with 304.80 acres impacted by development. The majority of this foraging habitat was historically in orchard production, but more recently was converted to watermelon production. The remaining 61.11 acres of foraging habitat is associated with the bluff, levee, and parcels not proposed for development. It is anticipated that any nesting Swainson's hawk within approximately 10 miles of the Specific Plan Area could use the non-orchard agricultural fields for foraging. This species is generally known to forage within 10 miles of a nesting location and given the proximity of the Specific Plan Area to documented Swainson's hawks in the region, it is highly likely that foraging occurs.

The Specific Plan is not anticipated to have a direct impact on Swainson's hawk; however, there would be an indirect impact through the loss of habitat.

TRICOLORED BLACKBIRD

Tricolored blackbirds (*Agelaius tricolor*) are identified by CDFW as a species of special concern due to declining populations in the region. They are colonial nesters that favor dense stands of cattails and/or bulrush, but they also commonly utilize blackberry thickets associated with drainages, ditches, and canals.

The majority of the Specific Plan Area is actively cultivated and lacks appropriate aquatic habitat favored by this species. Most recently, much of the Berghill Property has been cultivated and is not appropriate habitat. The agricultural ditch located along the western side of the Berghill Property provides some habitat qualities that are more favorable to this species, given that this area collects agricultural runoff from the fields and can develop denser stands of favored wetland plants. However, it is noted that the agricultural ditch undergoes frequent disturbance during its weed abatement activities where the ditch is either mowed or the ground is disturbed in order to maintain the ditch for the agricultural ditch purposes.

Additionally, the riparian areas along the Stanislaus River provide more favorable habitat for this species.

The closest recorded occurrence of this species is approximately 8.1 miles to the east. This species was not encountered during the field survey and is not anticipated to be present in the Project Area.

OTHER BIRDS IN THE REGION

Year-round birds: Special-status birds that can be present in the region throughout the year include: Great blue heron (*Ardea Herodias*), bald eagle (*Haliaeetus leucocephalus*), black rail (*Laterallus jamaicensis*), burrowing owl (*Athene cunicularia*), loggerhead shrike *(Lanius ludovicianus*), Nuttalls woodpecker (*Picoides nuttallii*), oak titmouse (*Baeolophus inornatus*), song sparrow (Modesto population) (*Melospiza melodia*), tricolored blackbird *(Agelaius tricolor*), Williamson's sapsucker (*Sphyrapicus thyroideus*), yellow-billed magpie (*Pica nuttalli*), among others. Some of these species are migratory, but also reside year-round in California.

Summering Birds: Special-status birds that are only present in the region in the spring and summer months include: least bittern (*Ixobrychus exilis*), Swainson's hawk (*Buteo swainsoni*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and yellow-billed magpie (*Pica nuttalli*). Cackling (Aleutian Canada) goose (*Branta hutchinsii leucopareia*) can be present in the region year-round.

Overwintering Birds: Special-status birds that are only present in the region in the fall and winter months include: Cackling (Aleutian Canada) goose (*Branta hutchinsii leucopareia*), Snowy egret (*Egretta thula*), Yellow-breasted chat (*Icteria virens*), ox sparrow (*Passerella iliaca*), lesser yellowlegs (*Tringa flavipes*), Lewis's woodpecker (*Melanerpes lewis*), long-billed curlew (*Numenius americanus*), marbeled godwit (*Limosa fedoa*), merlin *(Falco columbarius*), mountain plover (*Charadrius montanus*), peregrine falcon (*Falco peregrinus*), short-eared owl (*Asio flammeus*), and western grebe (A*echmophorus occidentalis*). As noted above, Cackling (Aleutian Canada) goose (*Branta hutchinsii leucopareia*) can be present in the region year-round.

Nesting Raptors (Birds of Prey): All raptors (owls, hawks, eagles, falcons), including species and their nests, are protected from take pursuant to the Fish and Game Code of California Section 3503.5, and the federal Migratory Bird Treaty Act, among other federal and State regulations. Special-status raptors that are known to occur in the region include: bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), Cooper's hawk *(Accipiter cooperii*), ferruginous hawk *(Buteo rega*), golden eagle *(Aquila chrysaetos*), great horned owl *(Bubo virginianus),* prairie falcon *(Falco mexicanus*), red-tailed hawk *(Buteo jamaicensis),* short-eared owl (*Asio flammeus*), Swainson's hawk *(Buteo swainsoni*), and white-tailed kite *(Elanus leucurus*), among others.

Analysis: Powerlines and trees located in the region represent potentially suitable nesting habitat for a variety of special-status birds. Additionally, the open land represents potentially suitable nesting habitat for the ground-nesting birds. In general, most nesting occurs from late February and early March through late July and early August, depending on various environmental conditions. The CNDDB currently contains nesting records for Swainson's hawk and burrowing owl in the vicinity of the Project Area, but not onsite. In addition to the species described above, common raptors, may nest in or adjacent to the Project Area.

CONCLUSION

The Project Area is largely undeveloped and the majority of the area has been previously used for agricultural uses. The exception is the riparian area, levee, buffer area, and Stanislaus River, which contains mostly undisturbed habitat. Field surveys did not reveal the presence of any special-status species. However, the powerlines throughout the Project Area, and trees found in the riparian and buffer areas can provide nesting opportunities for a variety of birds. During field surveys there was no evidence of nesting; however, new nests can be constructed in future breeding cycles. Suitable foraging habitat is located on and around the Project Area, and the Offsite Sewer Line. This includes foraging habitat for burrowing owl and Swainson's hawk, among other species of birds. The proposed project would require permanent disturbance to the foraging habitat in order to develop the Project Area. The Offsite Sewer Line would be a temporary impact given that the sewer line would be undergrounded and the surface area would be restored/revegetated. As such, Mitigation Measures 3.4-5 through 3.4-7 would be required.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-5: *The Project applicant shall implement the following measure to avoid or minimize impacts on western burrowing owl:*

- *No less than 14 days before initiating ground disturbance activities, the Project applicant shall complete an initial take avoidance survey. Implementation of avoidance and minimization measures would be triggered if the initial take avoidance survey results in positive owl presence in the Project Area where project activities shall occur. If needed, the development of avoidance and minimization approaches shall be developed in consultation with CDFW, consistent with the March 7, 2012, CDFW Staff Report on Burrowing Owl Mitigation.*

- *Permanent loss of burrowing owl foraging habitat shall be compensated for by preservation and management of foraging habitat of at least a similar quality and equivalent acreage at a biologically appropriate location. An example of similar quality shall be cropland for cropland, grassland for grassland, etc. An example of an appropriate location would be within the breeding range of burrowing owl in the Central Valley. The mitigation shall be documented in a mitigation plan that identifies the mitigation site, compensation acreage, performance criteria, and monitoring and management requirements to ensure the site provides suitable habitat for the applicable species. Long-term protection of mitigation lands shall be ensured through fee title acquisition, conservation easement, or other suitable mechanisms. Long-term management of mitigation lands shall be ensured by establishing a management endowment or other suitable funding source. It is anticipated that mitigation land would also function to mitigate for other species requiring mitigation land with similar characteristics (i.e. Swainson's hawk). In other words, the same acreage could function as mitigation for more than one species.*

Mitigation Measure 3.4-6: *The Project applicant shall implement the following measures to avoid or minimize impacts on Swainson's hawk:*

- *No more than 30 days before the commencement of construction, a qualified biologist shall perform preconstruction surveys for nesting Swainson's hawk and other raptors during the nesting season (February 1 through August 31).*

- *Appropriate buffers shall be established and maintained around active nest sites during construction activities to avoid nest failure as a result of project activities. The appropriate size and shape of the buffers shall be determined by a qualified biologist, and may vary depending on the nest location, nest stage, and construction activity. In determining the size of the buffers, the qualified biologist shall take into consideration the natural history of the Swainson's hawk, the proposed activity level adjacent to the nest, the nest occupants' habituation to existing or ongoing activity, nest concealment (i.e., whether there are visual or acoustic barriers between the proposed activity and the nest), and what (if any) nest monitoring is proposed. The buffers may be adjusted if a qualified biologist determines, based on these same considerations, that a change in the buffer size would not be likely to adversely affect the nest. Monitoring shall be conducted to confirm that project activity is not resulting in detectable adverse effects on nesting birds or their young. No project activity shall commence within the buffer areas until a qualified biologist has determined that the young have fledged or the nest site is otherwise no longer in use.*

- *Before the commencement of construction, the Project applicant shall provide compensatory mitigation for the permanent loss of Swainson's hawk foraging habitat. Loss of Swainson's hawk foraging habitat shall be compensated for by preservation and management of foraging habitat of at least a similar quality at an appropriate location. An example of similar quality shall be cropland for cropland, grassland for grassland, etc. An example of an appropriate location would be within the breeding range of Swainson's hawk in the Central Valley. The mitigation shall be documented in a mitigation plan that identifies the mitigation site, compensation acreage, performance criteria, and monitoring and management*

requirements to ensure the site provides suitable habitat for the applicable species. Long-term protection of mitigation lands shall be ensured through fee title acquisition, conservation easement, or other suitable mechanisms. Long-term management of mitigation lands shall be ensured by establishing a management endowment or other suitable funding source. It is anticipated that mitigation land would also function to mitigate for other species requiring mitigation land with similar characteristics (i.e. burrowing owl).

- *To mitigate for the loss of foraging habitat (as specified in this document), the project applicant shall compensate based on the following ratios:*
    - *(a) Portions of the project within 1 mile of an active nest tree shall provide: ·*
        - *one acre of either lands protected through fee title acquisition or conservation easement (acceptable to the CDFW) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk for each acre of development authorized (1:1 ratio); or ·*
        - *One-half acre of either lands protected through fee title acquisition or conservation easement (acceptable to the CDFW) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk for each acre of development authorized (0.5:1 ratio).*
    - *(b) Portions of the project within 5 miles of an active nest tree but greater than 1 mile from the nest tree shall provide 0.75 acres of either lands protected through fee title acquisition or conservation easement (acceptable to the CDFW) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk for each acre of development authorized for each acre of urban development authorized (0-75:1 ratio).*
    - *(c) Portions of the project within 10 miles of an active nest tree but greater than 5 miles from an active nest tree shall provide 0.5 acres of either lands protected through fee title acquisition or conservation easement (acceptable to the CDFW) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk for each acre of development authorized (0.5:1 ratio).*

Mitigation Measure 3.4-7: *The Project applicant shall implement the following measure to avoid or minimize impacts on other protected bird species that may occur on the site:*

- *Preconstruction surveys for active nests of special-status birds shall be conducted by a qualified biologist in all areas of suitable habitat within 500 feet of project disturbance. Surveys shall be conducted within 14 days before commencement of any construction activities that occur during the nesting season (February 15 to August 31) in a given area.*
- *If any active nests, or behaviors indicating that active nests are present, are observed, appropriate buffers around the nest sites shall be determined by a qualified biologist to avoid nest failure resulting from project activities. The size of the buffer shall depend on the*

species, nest location, nest stage, and specific construction activities to be performed while the nest is active. The buffers may be adjusted if a qualified biologist determines, based on these same considerations, that a change in buffer size would not be likely to adversely affect the nest. If buffers are adjusted, monitoring will be conducted to confirm that project activity is not resulting in detectable adverse effects on nesting birds or their young. No project activity shall commence within the buffer areas until a qualified biologist has determined that the young have fledged or the nest site is otherwise no longer in use.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation Measure 3.4-5 requires avoidance surveys for burrowing owl and, if needed, avoidance and minimization approaches would be developed in consultation with CDFW. Implementation of the above mitigation measures would ensure that potential impacts to burrowing owl are reduced to a ***less than significant*** level.

Mitigation Measure 3.4-6 requires preconstruction surveys for nesting Swainson's hawk and other raptors during the nesting season (February 1 through August 31). Nesting buffers may be required if found. This measure also requires the Project Applicant to conserve foraging habitat of equal value to the land that will be converted at a 0.5:1, 0.75:1, or 1:1 ratio based on the distance of the portion of the project relative to the closest nest tree. Here, the use of conservation easements at a 0.5:1, 0.75:1, or 1:1 ratio is a legitimate expression of state and local police powers given it is presented in the CDFW *Staff Report regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California (1994).* It also follows the conservation strategies used locally in the City's Sustainable Agricultural Strategy, which functions as a dual-purpose agricultural conservation program, while also functionally conserving the habitat qualities of agricultural land for species like the Swainson's hawk, among others. Although the developed farmland/Swainson's hawk foraging habitat is not replaced, and does not necessarily reduce the impact to an insignificant level, an equivalent area of comparable farmland is permanently protected from a similar fate providing mitigation benefits. Further, the requirement of rough proportionality between the mitigation measure and the impact of the development project is met. For every acre of farmland/Swainson's hawk foraging habitat permanently lost to development within a usable proximity for foraging, another acre of farmland is permanently protected from development. Here, it is intended that Mitigation Measure 3.4-6 mitigates for the loss of foraging habitat following CDFW's recommendation. CDFW concludes in their *Staff Report regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California (1994)* that incorporation of these mitigation measures into a CEQA document would reduce a project's impact to a Swainson's hawk(s) to less than significant levels. As such, this impact would be reduced to a ***less than significant*** level with the implementation of mitigation.

Mitigation Measure 3.4-7 requires preconstruction surveys for active nests of special-status birds in all areas of suitable habitat within 500 feet of project disturbance. If active nests or behaviors indicating that active nests are present, are observed, appropriate buffers around the nest sites would be determined by a qualified biologist to avoid nest failure resulting from project activities.

Implementation of the above mitigation measures would ensure that potential impacts to nesting special status birds are reduced to a ***less than significant*** level.

With the above mitigation measures, there would be no substantial direct or indirect effects on any special-status bird species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed species, elimination of a bird community, or a drop in population levels below self-sustaining levels.

Impact 3.4-4: The potential for substantial direct or indirect effects on special-status mammal species, including through substantial reduction of habitat, substantial reduction of the number or restriction of the range of a listed species, elimination of a mammal community, or a drop in population levels below self-sustaining levels. (Less than Significant with Mitigation)

The Project Area provides potential habitat for several special-status bats, including: Townsend's big-eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), pallid bat (*Antrozous pallidus*), and Yuma myotis (*Myotis Yumanensis*).

There are a variety of areas within the Project Area where bats could roost. Roosts commonly include: tree/shrub foliage, hollow trees, barns, attics, inoperable vehicles, bridges, rocks, and debris piles. The riparian area provides high quality natural bat roosting habitat. There is also some habitat quality provide in the bluff area. Lastly, the orchards provide some limited roosting habitat. Any bats roosting in the area would find quality forage along the Stanislaus River, and in many of the agricultural areas in the Project Area.

There was no evidence of bat roosts during the field investigations; however, bats can be difficult to detect and can inhabit areas that they were not previously known to inhabit. Bats are, however, common in agricultural areas, especially along river corridors and are be expected to forage in the area.

Development of the Project Area would eliminate foraging habitat for special-status bats by removing the agricultural areas. This is an indirect effect on bat species in the region. Development would not directly affect these bat species because it is not expected to result in injury or death to individual bats or roosts. Nevertheless, the following mitigation measure would be required.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-8: *Prior to grading of each village, the Project applicant shall conduct a survey of the area to be graded for bat roosts, and if present, the Project applicant shall implement the following measures to avoid or minimize impacts on special-status bats:*

- *If removal of suitable roosting areas (i.e., buildings, trees, shrubs, bridges, etc.) must occur during the bat pupping season (April 1 through July 31), surveys for active maternity roosts shall be conducted by a qualified biologist. The surveys shall be conducted from dusk until dark.*

- *If a special-status bat maternity roost is located, appropriate buffers around the roost sites shall be determined by a qualified biologist and implemented to avoid destruction or abandonment of the roost resulting from habitat removal or other project activities. The size of the buffer shall depend on the species, roost location, and specific construction activities to be performed in the vicinity. No project activity shall commence within the buffer areas until the end of the pupping season (August 1) or until a qualified biologist confirms the maternity roost is no longer active.*

- *If a non-maternal roost is located, eviction and exclusion techniques shall be conducted as recommended by the qualified biologist. Methods may include opening the roosting area to change the air flow and lighting, installing one-way doors, or other appropriate methods that allow the bats to exit and find a new roost. After eviction is believed to be completed, acoustic monitoring, and an evening emergence survey shall be performed by the qualified biologist to ensure eviction is complete. For tree removal, a two-step tree removal process involving removal of all branches that do not provide roosting habitat on the first day, and then the next day cutting down the remaining portion of the tree.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation Measure 3.2-1, presented in Section 3.2 Agricultural Resources, requires the Project applicant to conserve farmland of equal value to the land that will be converted at a 1:1 ratio, in perpetuity, or pay in-lieu fees that would functionally achieve the conservation intent. Here, the use of conservation easements at a 1:1 ratio is a legitimate expression of local police powers given it is required by the City's Sustainable Agricultural Strategy and is consistent with Stanislaus County's Farmland Mitigation Program. Although the developed farmland is not replaced, and does not necessarily reduce the impact to an insignificant level, an equivalent area of comparable farmland is permanently protected from a similar fate. Further, the requirement of rough proportionality between the mitigation measure and the impact of the development project is met. For every acre of farmland permanently lost to residential development another acre of farmland is permanently protected from residential development. While this mitigation measure is intended as a compensatory measure for the loss of agricultural land, functionally it also serves a compensation for the loss of habitat that the lost agricultural land provides for wildlife, including special status bats. This wildlife benefit is an indirect and beneficial consequence of the City's Sustainable Agricultural Strategy calling for the use of conservation easements at a 1:1 ratio for loss of agricultural land. Here, it is not intended that Mitigation Measure 3.2-1 mitigate the loss of foraging habitat for special status bats to an insignificant level because the loss of foraging habitat for this species is not considered a significant impact. Instead, this species is highly mobile and will find forage in the vast agricultural regions of the Central Valley.

Mitigation Measure 3.4-8 requires a survey for bat roosts, as well as buffers, if needed, around the roost sites. Implementation of the above mitigation measure would ensure that potential impacts to special status mammals are reduced to a ***less than significant*** level. There would be no substantial direct or indirect effects on any special-status mammal species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed

species, elimination of a mammal community, or a drop in population levels below self-sustaining levels.

Impact 3.4-5: The potential for substantial direct or indirect effects on candidate, sensitive, or special-status plant species, including through substantial reduction of habitat, substantial reduction of the number or restriction in the range of a listed species, elimination of a plant community, or a drop in population levels below self-sustaining levels. (Less than Significant)

The records search identified eight documented special-status plant species within the nine-quadrangle Project region. These eight special-status plants include: beaked clarkia (*Clarkia rostrate*), Colusa grass (*Neostapfia colusana*), Greene's tuctoria (*Tuctoria greenei*), heartscale (*Atriplex cordulata var. cordulata*), Legenere (*Legenere limosa*), Prairie wedge grass (*Sphenopolis obtusata*) San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*), and subtle orache (*Atriplex subtilis*). According to the USFWS IPAC, there is one special status plant that is known within region, including: Greene's tuctoria (*Tuctoria greenei*) (also in the CNDDB).

Of the eight documented species, three are federally listed (two threatened and one endangered), three are state listed (two endangered and one rare), seven CNPS 1B listed species (including the federal and state listed species), and one CNPS 2 listed species.

Field investigations were performed in the study area in December 2019 and March, May, and June 2020 by Principal Biologist Steve McMurtry[3]. The collection of field surveys included surveys that coincided with the blooming period for special many status plants known to occur within the region.

The Project Area consists of highly disturbed areas (agricultural area), and mostly undisturbed natural habitats (bluff area and riparian area). The Specific Plan is designed to place new development in areas that are previously highly disturbed by agricultural activity, and to conserve those areas that are largely undisturbed (i.e., bluff area and riparian corridor along the Stanislaus River). Each area was surveyed and is discussed below.

Agricultural Area: The majority of the Project Area is under active agricultural use. There are no special status plants located within the agricultural fields, or along the field edges. Development in these areas will not impact special status plants.

Bluff Area: The bluff area is mostly undisturbed with the exception of several areas that have been graded into farm roads. These areas contain a variety of annual grasses such as wild oat (*Avena barbata*), rip-gut brome (*Bromus diandrus*), softchess (*Bromus hordeaceus*) alfalfa (*Medicago sativa*), Russian thistle (Salsola tragus), Italian thistle (*Carduus pycnocephalus*), rough pigweed

[3] (Note: The riparian corridor along the Stanislaus River could not be surveyed with 100% coverage because the vegetative cover inhibits walking through this area without causing severe damage to the plants. The survey of this area included habitat assessment for special status species. It is noted that this riparian corridor is designated to be preserved.)

(*Amaranthus retroflexus*), sunflower (*Helianthus annuus*), tarragon (*Artemisia dracunculus*), prickly lettuce (*Lactuca serriola*), milk thistle (*Silybum marianum*), sow thistle (*Sonchus asper*), telegraph weed (*Heterotheca grandiflora*), barley (*Hordeum* sp.), mustard (*Brassica niger*), and heliotrope (*Heliotropium curassavicum*). There are also a variety of mature native oak trees in the bluff area. There were no special status species observed in the bluff area. The survey of this area included high visibility and full coverage. The bluff area will remain as open space and will not be disturbed with the exception of a few areas that will require roadway construction.

Riparian Area: The riparian area is characterized by a canopy layer of cottonwoods, California sycamores, and valley oaks. Subcanopy cover trees are white alder, boxelder, and Oregon ash. Typical understory shrub layer plants include wild grape, wild rose, California blackberry, elderberry, button brush, and willows. The herbaceous layer consists of sedges, rushes, grasses, miner's lettuce, poison-hemlock, and nettle. Annual grassland is also a habitat type found in more open patches in the riparian area. Common species of annual grassland include wild oats, soft chess, ripgut brome, red brome, wild barley, and foxtail fescue. Common forbs include redstem filaree, turkey mullein, clovers, and popcorn flower.

The riparian area is appropriate habitat for a variety of special status species. It is noted that much of this corridor is overgrown with tall brushy vegetation (i.e., blackberry, grape, etc.), that dominates most plant species in terms of competition for space. There were no special status species observed during the limited coverage survey of the riparian area (i.e., edges and areas that could be accessed without damaging the vegetation). The riparian habitat is appropriate for several special status plant species. However, the riparian corridor will remain as open space and will not be disturbed.

The river's edge contains fresh emergent wetland, which is a transitional vegetation from the riverine to the riparian. This vegetation is characterized by erect, rooted hydrophytes such as sedge, nutsedge, rush, and cattail. Generally, this habitat type is a very narrow zone that does not extend far into the riparian zone or into the deeper areas of the river. This area is high quality habitat for special status species. Much of this area is inaccessible due to the presence of the water flows in the Stanislaus River on one side, and the thick riparian vegetation on the other side. The river's edge will remain as open space and will not be disturbed.

There are a few areas in the riparian area that are currently used for river access (fishing, swimming, and boat launch). These areas show disturbance in the forms of rip-rap, roads/trails, and trash/debris, and are best characterized as barren. It is anticipated that these areas will be cleaned up as part of the proposed Project, but will be maintained for river access. These areas were surveyed thoroughly and there were no special status plants present.

CONCLUSION

The Specific Plan is designed to place new development in areas that are previously disturbed by agricultural activity, and to conserve those areas that are largely undisturbed (i.e., riparian corridor along the Stanislaus River and bluff area). There are no special status plants located within the agricultural fields that are planned for development. Implementation of the proposed Project would have a ***less than significant*** impact on special-status plant species.

Impact 3.4-6: The potential to cause a substantial adverse effect on protected wetlands and jurisdictional waters. (Less than Significant with Mitigation)

There are three categories of aquatic resources located within the Project Area. These include the following: 1) the Stanislaus River, which is a natural riverine habitat (6.94 acres); 2) Modesto Irrigation District facilities, which is a manmade agricultural irrigation distribution facility (6.48 acres); and 3) Agricultural Ditch, which is a ditch that drains runoff from the agricultural fields in the lower portion of the Specific Plan Area (15.22 acres). In addition to these aquatic features, there is a 52.02-acre riparian area located along the Stanislaus River. Figure 3.4-3 illustrates the location of the aquatic resources located in the Project Area. Each resource is discussed below.

The Stanislaus River is a tributary to a traditional navigable water making it jurisdictional under federal and state regulations. Additionally, the riparian habitat along the Stanislaus River is protected under state regulations. The area is proposed for Buffer/Greenway/Open Space which provides the opportunity to preserve important open spaces containing natural resources, such as sensitive biological habitat. This area will not be directed effected by the proposed Project, and it is not anticipated that any permit authorizations would be necessary given the absence of any proposal for grading or development in this area.

The Modesto Irrigation District (MID) facilities are man-made irrigation facilities that provide water supply for agricultural operations in the region. These facilities are not jurisdictional. Nevertheless, these facilities will not be directly affected by the proposed Project, and it is not anticipated that any permit authorizations would be necessary given the absence of any proposal for development in this area.

An assessment of the Agricultural Ditch, including its historical and current function, leads to the conclusion that it is not a jurisdictional facility under federal or state regulation. As discussed elsewhere in this chapter, the main portion of the agricultural ditch was once a natural floodplain drain when the Stanislaus River floodwaters overtopped the banks of the river. There are many maps that retain the idea that it is still a natural drain, including the FEMA flood maps. However, when the levee was constructed over 70 years ago, the property “dried out,” ceased to be a floodplain, and was ultimately converted to an agricultural use. As a result of agricultural operations, the agricultural ditch was channelized, and an additional network of ditches were constructed to improve irrigation runoff as part of the agricultural operations.

Today, the agricultural ditch functions to collect agricultural runoff within the watershed through a series of other agricultural ditches in the lower portion of the Specific Plan Area. The ditch directs flows to the north along the edge of the bluff, similar to its historical location. There is a pump located at the point where the ditch meets the levee at the northern most point of the Berghill Property. It was noted by Mike Berg (current property owner) that the pump is not currently functional, so all agricultural runoff ponds within the agricultural ditch, functionally making it serve as an agricultural detention basin. When the pump was in operation, the pump would move the agricultural runoff under the levee to the north where it would ultimately flow into the Stanislaus River. It is noted that during the field surveys there was no standing water in the agricultural ditch, including at its lowest point near the pump at the levee. The agricultural ditch will hold water at

times of irrigation (i.e., generally during the spring and summer irrigation months), but generally dries out during non-irrigation months. The exception would be during high precipitation years where the agricultural fields cannot absorb the increased precipitation and have more extensive stormwater runoff that flows into the ditches.

As described above, the Stanislaus River, riparian area, and MID facilities will not be directly affected, and do not require permitting. The network of agricultural ditches is all anticipated to be deemed non-jurisdictional, although the final jurisdictional determination is made by the regulatory agencies during a consultation and/or permit process. The Project applicant for parcels that contain any of these agricultural ditches must consult with the USACE, CDFW, and RWQCB to ensure that the regulatory agency does not claim jurisdiction and require a permit for construction activities. If the regulatory agencies take jurisdiction over these facilities, the Project applicant for the parcels with the facilities would be required to obtain a permit and provide compensatory mitigation in accordance with the regulatory agency's requirements. There are no other wetlands that are proposed for disturbance. Nevertheless, mitigation is proposed that would ensure proper mitigation of any wetlands that might unexpectedly be encountered during the planning and development process. Implementation of the following Mitigation Measure would ensure that any potential for impact is reduced to a ***less than significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-9*: If construction activities would disturb the agricultural ditch within the Project Area, the property owner/applicant proposing the activity shall verify with federal and state regulators that the facility is non-jurisdictional or qualifies under the agricultural ditch exemption. If the facilities do not qualify for the exemption and are determined to be jurisdictional by the regulatory agencies, any fill activity would require authorization for fill from the regulatory agencies (USACE-404 permit, RWQCB-401 certification, 1600 Streambed Alteration Agreement). All requirements of a permit shall be adhered to throughout the construction phase. Any compensatory mitigation would be specified by the regulatory agency through the permit process.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation Measure 3.4-9 requires that, if construction activities would disturb the agricultural ditch within the Project Area, the property owner/applicant proposing the activity shall verify with federal and state regulators that the facility is non-jurisdictional or qualifies under the agricultural ditch exemption. If the facilities do not qualify for the exemption and are determined to be jurisdictional by the regulatory agencies, any fill activity would require authorization for fill from the regulatory agencies (USACE-404 permit, RWQCB-401 certification, 1600 Streambed Alteration Agreement). These agencies, pursuant to the laws governing their activities, will impose any mitigation requirements necessary to account for the loss of, or adverse impacts to, biologically important features. For example, the Clean Water Act typically requires that there be no net loss of wetland values and functions. And Fish and Game Code 1602 authorizes CDFW to impose reasonable measures necessary to protect affected fish and wildlife resources. With implementation of the above mitigation measure, the proposed Project would have a ***less than significant*** impact on

protected wetlands and jurisdictional waters. There would be no substantial adverse effect on state or federally protected wetlands.

Impact 3.4-7: The potential to result in adverse effects on riparian habitat or other sensitive natural community. (Less than Significant)

The CNDDB record search revealed documented occurrences of one sensitive habitat within the nine-quadrangle Project region: Northern Hardpan Vernal Pool. This sensitive natural community does not occur within the Project Area.

There are 52.04 acres of riparian habitat within the Project Area located along the Stanislaus River corridor. The riparian habitat located in the Project Area would not be developed as part of the proposed Specific Plan. As part of the proposed Specific Plan, land located adjacent to the river is proposed for Buffer/Greenway/Open Space – Bluff, or Buffer/Greenway/Open Space – River Park uses. The Buffer/Greenway/Open Space designation provides the opportunity to preserve important open spaces containing natural resources, such as sensitive biological habitat.

The River Walk Park, proposed adjacent to the Stanislaus River, consists of passive nature preserves which foster appreciation and understanding of the natural riparian habitat provided by the Stanislaus River. Examples of passive recreation facilities may include walking trails, picnic tables, bench areas, outdoor exercise stations, wildlife viewpoints, and river access points for non-motorized travel (i.e., swimming, kayaking, or canoeing). Much of this would occur on the levee, which would provide a great vantage point of the river and riparian corridor, without the need to damage the riparian vegetation. It is noted that there are a few existing areas in the riparian area that are currently used for river access (fishing, swimming, and boat launch). These areas show existing disturbance in the forms of rip-rap, roads/trails, and trash/debris, and are best characterized as barren. It is anticipated that these areas will be cleaned up as part of the proposed Project, but will be maintained for river access connecting any walking areas along the levee to the river front. Maintaining these areas for river access will not present an adverse effect. The land uses within the Project Area would not have any direct disturbance to the Stanislaus River or its tributaries, or to the riparian area along the river. Implementation of the proposed Project would have a ***less than significant*** impact on riparian habitats or sensitive natural communities.

Impact 3.4-8: The potential to result in interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant)

The CNDDB record search did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the Project Area. Special-status fish species documented within the region include: Hardhead (*Mylopharodon conocephalus*) and Steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus*). According to the USFWS IPAC, there is one additional special status fish species that is known within region, including: Delta smelt (*Hypomesus transpacificus*).

The closest major natural movement corridor for native fish that are documented in the region is the Stanislaus River, located to the north of the Project Area. The Stanislaus River and the associated riparian corridor will remain as open space and will not be disturbed. There are a few areas in the riparian area that are currently used for river access (fishing, swimming, and boat launch). These areas show disturbance in the forms of rip-rap, roads/trails, and trash/debris, and are best characterized as barren. It is anticipated that these areas will be cleaned up as part of the proposed Project, but will be maintained for river access. Maintaining these areas for river access will not present an adverse effect. The land uses within the Project Area would not have any direct disturbance to the Stanislaus River or its tributaries, and therefore, would not have any direct disturbance to the movement corridor or habitat.

The ongoing operational phase of the proposed Project requires discharge of stormwater into the City storm drainage system and/or on-site MID facilities and Stanislaus River. The storm drain system will be designed consistent with the LID requirements of the City of Riverbank. Storm drainage will be provided to the Project Area through the installation of a storm drain mains, basins, and pump stations. It is anticipated to utilize MID owned facilities for storm drainage discharge pending an agreement with MID. If discharge agreements with MID cannot be executed, stormwater will need to be retained within the basins and infiltrated into the subsurface soils by using infiltration trenches, or horizontal drains ("French drains"). Stormwater will be collected through a network of gutters, inlets, and storm drains that will direct storm water to storm water basins constructed within the Specific Plan Area. All stormwater would be pre-treated in accordance with current NPDES requirements, and would be detained prior to discharge into the MID canals or the Stanislaus River.

The discharge of stormwater could result in indirect impacts to special-status fish downstream if stormwater was not appropriately treated through Best Management Practices (BMPs) prior to its discharge to MID facilities or the Stanislaus River. The City's Low Impact Development Design and Specifications Manual establishes design standards for all development projects in the City. Storm water drainage is managed through the implementation of best management practices to the extent they are technologically achievable to prevent and reduce pollutants. The City requires reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. The management of water quality through BMPs is intended to ensure that water quality does not degrade to levels that would interfere or impede fish or wildlife. Implementation of these required measures would ensure that this potential impact is reduced to a ***less than significant*** level.

Impact 3.4-9: The potential to conflict with an adopted Habitat Conservation Plan. (Less than Significant Impact with Mitigation)

The Project Area is not subject to an HCP or NCCP. However, the Offsite Sewer Line is located in San Joaquin County, which has an HCP/NCCP in effect. The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), in accordance with ESA Section 10(a)(1)(B) and CESA Section 2081(b) Incidental Take Permits, provides compensation for the Conversion of Open Space to non-Open Space uses which affect the plant, fish and wildlife species covered by the Plan, hereinafter referred to as "SJMSCP Covered Species". In addition, the SJMSCP provides some

compensation to offset the impacts of open space land conversions on non-wildlife related resources such as recreation, agriculture, scenic values and other beneficial Open Space uses.

The SJMSCP compensates for Conversions of Open Space for the following activities: urban development, mining, expansion of existing urban boundaries, non-agricultural activities occurring outside of urban boundaries, levee maintenance undertaken by the San Joaquin Area Flood Control Agency, transportation projects, school expansions, non-Federal flood control projects, new parks and trails, maintenance of existing facilities for non-Federal irrigation district projects, utility installation, maintenance activities, managing Preserves, and similar public agency projects. These activities can be covered by the SJMSCP when they are undertaken by either public or private individuals and agencies throughout San Joaquin County.

The Offsite Sewer Line is subject to the SJMSCP given that it is located in San Joaquin County. The proposed Project does not conflict with the SJMSCP. Therefore, the proposed Project would have a ***less than significant*** impact relative to this topic. Mitigation Measure 3.4-10 requires participation in the SJMSCP for installation of the Offsite Sewer Line.

Implementation of the proposed project would have ***no impact*** relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-10*: Prior to commencement of any ground disturbance activities associated with the Offsite Sewer Line, the Project proponent shall obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special status species for the portion of the Offsite Sewer Line within San Joaquin County. Coverage involves compensation for habitat impacts on covered species through implementation of incidental take and minimization Measures (ITMMs) and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.*

Impact 3.4-10: The potential to conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (Less than Significant with Mitigation)

The Conservation and Open Space Element of the General Plan establishes numerous policies related to biological resources as listed below:

CONSERVATION AND OPEN SPACE ELEMENT POLICIES

CONS-4.1. Approved projects, plans, and subdivisions shall avoid conversion of habitat within the existing Stanislaus River riparian corridor, including Great Valley Mixed Riparian Forest, Great Valley Willow Scrub, and Riparian Scrub areas, and shall preserve an open space buffer along the Stanislaus River and associated riparian areas. The open space buffer shall be designed to avoid impacts to

habitat and special status species in the riparian corridor, as specified in Policy CONS 5.1, Policy CONS 5.2, Policy CONS 5.3, and Policy CONS 5.6, based on project specific biological resource assessment. The precise size of buffer from the river and associated riparian corridor is to be determined by site specific analysis. The riparian corridor preservation and open space buffer shall be provided through a permanent covenant, such as a conservation easement and shall also include an ongoing maintenance agreement with a land trust or other qualified nonprofit organization. The preservation of the riparian corridor and ongoing maintenance agreement is required prior to City approval of any subdivision of property or development project located in areas outside City limits as of January 1, 2007 (see Figure CONS-1). Low-impact recreation could be allowed in this buffer area to the extent that impacts to these sensitive habitats are avoided or fully mitigated by demonstrating no net loss of habitat functions or value. Urban development shall not be allowed in this buffer area.

- ***Consistent**: The riparian habitat located in the Project Area would not be developed as part of the proposed Specific Plan. As part of the proposed Specific Plan, land located adjacent to the river is proposed for Buffer/Greenway/Open Space – River Park uses. The Buffer/Greenway/Open Space designation provides the opportunity to preserve important open spaces containing natural resources, such as sensitive biological habitat. The River Walk Park, proposed adjacent to the Stanislaus River, consists of passive nature preserves which foster appreciation and understanding of the natural riparian habitat provided by the Stanislaus River. Examples of passive recreation facilities may include walking trails, picnic tables, bench areas, outdoor exercise stations, wildlife viewpoints, and river access points for non-motorized travel (i.e., swimming, kayaking, or canoeing).*

CONS-4.2. Approved projects, plans, and subdivisions shall provide for collection, conveyance, treatment, detention, and other stormwater management measures in a way that does not decrease water quality or alter hydrology in the Stanislaus River or associated groundwater recharge areas.

- ***Consistent**: The proposed Project would include development of a storm drainage system in accordance with the adopted City and regional stormwater regulations. As discussed in Chapter 2.0, Project Description, a standalone drainage system that will be installed to collect all storm water runoff. Because of the greenfield/rural residential designation within the Low Impact Development Design and Specifications Manual, maintaining existing hydrological conditions by conserving natural areas and existing drainage features is an important consideration, where possible. Impervious hardscape surfaces (i.e., conventional roofs and paving) will be designed to discharge to pervious areas to help filter and infiltrate the stormwater runoff. To further aid infiltration, native soil compaction in landscaped areas will be minimized.*

  Additionally, as discussed in Section 3.9, Hydrology and Water Quality, development of the Project Area would not alter the hydrology of the Stanislaus River. Impacts related to water quality (see Impact 3.9-1), groundwater recharge (see Impact 3.9-2), and drainage, erosion, siltation, polluted runoff, and flooding (see Impact 3.9-3) were determined to be less than significant.

CONS-4.3. The City will require compliance with the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan for projects to expand Jacob Myers Park, or other projects within San Joaquin County, as applicable.

- ***Consistent****: The proposed Project does not include expansion of Jacob Myers Park, and the Project Area is not located within San Joaquin County. However, as discussed under Impact 3.4-9, the Offsite Sewer Line is located in San Joaquin County and is subject to the SJMSCP to mitigate for habitat impacts to covered special status species for the portion of the Offsite Sewer Line within San Joaquin County. Coverage involves compensation for habitat impacts on covered species through implementation of incidental take and minimization Measures (ITMMs) and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.*

CONS-5.1. Approved projects, plans, and subdivisions shall avoid urban development of the existing Stanislaus River riparian corridor and other habitat that is rare, declining, unique, or supportive of special-status species.

- ***Consistent****: The Project Area is located along the Stanislaus River, and riparian habitat is found on-site in areas adjacent to the river. The riparian habitat located in the Project Area would not be developed as part of the proposed Specific Plan. As part of the proposed Specific Plan, land located adjacent to the river is proposed for Reserve, Buffer/Greenway/Open Space – Bluff, or Buffer/Greenway/Open Space – River Park uses. This EIR includes an in-depth analysis of impacts for sensitive plants and wildlife, as well as habitat. Development of the Project would entail the loss of some habitats for special status species, such as the Swainson's hawk. Such impacts, however, do not create a violation of Policy CONS-5.1. Although, taken literally and read in isolation, this policy seems to require complete avoidance of any habitat that supports special status species, the policy in fact is not that restrictive. Read together with General Plan policies CONS-5.4, CONS-5.6, and CONS-5.7 (discussed below), all of which allow for mitigation in the face of such impacts, Policy CONS-5.1 must be read to allow for impacts on such habitats, provided that such impacts are adequately mitigated. (See No Oil, Inc.* v. *City of Los Angeles* (1987) 196 Cal.App.3d 223, 244 ["[a]s with the *interpretation of statutes in general, portions of a general plan should be reconciled if reasonably possible"].) Here, where impacts on habitat supporting special status species are identified, appropriate mitigation measures are presented to minimize, avoid, or compensate to the extent practicable, consistent with Policies CONS-5.6 and CONS-5.7.*

CONS-5.2. Development applications involving areas with important habitat shall submit site plans that specifically show how development will avoid impacts to habitat that is rare, declining, unique, or supportive of special-status species.

- ***Consistent**: As discussed above, the on-site agricultural areas, although not rare, can support some special-status species, the habitats for which, in some instances, will be lost due to development. As with Policy CONS-5.1, however, such impacts do not create a violation of Policy CONS-5.2. Although, taken literally and read in isolation, Policy CONS-5.2 seems to require complete avoidance of any habitat that supports special status species, the policy in fact is not that restrictive. Read together with General Plan policies CONS-5.4, CONS-5.6, and CONS-5.7, all of which allow for mitigation in the face of such impacts, Policy CONS-5.2, like Policy CONS-5.1, must be read to allow allows for impacts on such habitats, provided that such impacts are adequately mitigated. (See No Oil, Inc.* v. *City of Los Angeles* (1987) 196 Cal.App.3d 223, 244 ["[a]s with the *interpretation of statutes in general, portions of a general plan should be reconciled if reasonably possible"].) Here, this EIR includes an in-depth analysis of impacts for sensitive plants and wildlife, as well as habitat. Where impacts are identified, appropriate mitigation measures are presented to minimize, avoid, or compensate to the extent practicable, consistent with Policies CONS-5.6 and CONS-5.7.*

CONS-5.3. The City will require the use of clustering to avoid important habitat areas.

- ***Consistent**: Unlike Policies CONS-5.1 and CONS-5.2, this Policy does not apply to all development that would entail the loss of any habitat supporting any special-status species. Rather, the Policy focuses only on "important habitat areas." Where such habitat areas are present within a proposed development project, clustering of structures should be used to avoid impacting those areas. Here, although the Project includes agricultural land that supports some special-status species, the habitat values of the land is relatively limited. This land has been actively farmed, and rendered unnatural in that sense, for many decades. This land thus does not rise to the level of being "important habitat areas." On the other hand, the riparian areas along the Stanislaus River do qualify, but are being completely avoided by being designated for Buffer/Greenway/Open Space uses. These important habitat areas along the Stanislaus River would be preserved in open space areas as part of the proposed Specific Plan. Clustering is not needed to avoid those important habitat areas, as they will be completely untouched by development. And the obligation to cluster development does not apply to the agricultural land that would be impacted by development within the remainder of the Project area.*

CONS-5.4. When the loss of important habitat is unavoidable, mitigation measures will be designed to reduce impacts to the maximum extent feasible. This mitigation may include, but is not limited to off-site mitigation banking with restoration and enhancement components. For projects that would affect the function and value of river, stream, lake, pond, or wetland features, each of these features shall be delineated. For wetlands, the delineation shall be conducted in accordance with the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and verified by USACE. The Project applicant shall determine the exact acreage of important habitat (including those protected by federal, state, regional, and/or local regulations) that would be impacted by project implementation. A mitigation plan to replace or rehabilitate affected habitats in a manner that ensures no net loss of habitat functions and values shall be prepared and implemented in accordance with applicable regulations. The plan shall be reviewed and approved by the appropriate regulatory agencies and all

relevant permits and authorizations shall be obtained. Mitigation monitoring shall be conducted to ensure performance criteria are met.

- ***Consistent**: As explained above in the discussion of consistency with Policy CONS-5.3, all "important habitat" in the Project area will be avoided and included within designated open space areas. As noted previously, this EIR includes an in-depth analysis of impacts for sensitive plants and wildlife, as well as habitat, for the remainder of the Project area, some portions of which support habitat for special status species such as Swainson's hawk. Where impacts are identified, mitigation measures are presented to minimize, avoid, or compensate to the extent practicable, consistent with Policies CONS-5.6 and CONS-5.7. As discussed throughout this section, the proposed Project would be subject to any applicable local, regional, state, or federal regulations pertaining to potential impacts to habitat and wildlife.*

CONS-5.5. Approved projects, plans, and subdivisions shall comply with applicable federal and state laws and regulations (e.g., federal and state endangered species acts and California Fish and Game Code) that require the protection of special-status species.

- ***Consistent**: As discussed throughout this section, the proposed Project would be subject to any applicable local, regional, state, or federal regulations pertaining to potential impacts to habitat and wildlife.*

CONS-5.6. For all development projects involving discretionary review that have the potential to affect special status species, the Project applicant shall be required to perform a reconnaissance level assessment of the Project Area for special-status species and their habitat. For projects with the potential to have a substantial adverse effect on special-status species, their habitats, or movement corridors, or result in the fragmentation of their habitats, a Biological Inventory Report shall be prepared by a qualified biologist, to determine if, and to what extent special-status species and their habitat may be affected by a proposed project. Projects shall be designed to avoid disturbance or fragmentation of important habitats and wildlife movement corridors. For projects where avoidance is not possible, the Project applicant shall be required to fully mitigate the effects the development on special-status species, and the loss and/or fragmentation of their habitat.

- ***Consistent**: Field investigations were performed in the Berghill Boundary by Principal Biologist Steve McMurtry in December 2019 and March, May, and June 2020. Additionally, the Sewer Line was surveyed in May 2020. The surveys served several purposes. Primarily, they served as reconnaissance of the site to establish the existing conditions of the site and to verify information gathered in the pre-field investigation. This section serves as a Biological Inventory Report. As required by the mitigation measures included in this section of the EIR, the Project applicant would be required to fully mitigate the effects of development on special-status species, and the loss and/or fragmentation of their habitat, consistent with this Policy (CONS-5.6) and Policy CONS-5.7.*

CONS-5.7. A mitigation plan shall be prepared and reviewed and approved by the appropriate regulatory agencies for projects where avoidance of adverse effects to special-status species is not feasible, and authorization for take of listed species shall be obtained, if necessary. The mitigation

plan shall include measures to minimize potential for effects during project construction (e.g., pre-construction surveys and timing of construction) and measures to compensate for loss of special-status species habitat. Loss of Swainson's hawk foraging habitat shall be compensated for by preservation and management of foraging habitat of at least a similar quality at an appropriate location. Mitigation plans shall identify an appropriate mitigation site, compensation acreage, performance criteria, and monitoring and management requirements to ensure the site provides suitable habitat for the applicable species. Long-term protection of mitigation lands shall be ensured through fee title acquisition, conservation easement, or other suitable mechanisms. Long-term management of mitigation lands shall be ensured by establishing a management endowment or other suitable funding source. Alternatively, it may be appropriate to contribute funds to existing mitigation programs. Use of such a program shall be approved by the appropriate regulatory agencies.

- ***Consistent**: Mitigation Measures have been incorporated into this EIR to ensure avoidance of special status species to the extent feasible, and to require compensatory mitigation where avoidance is not feasible. Mitigation requires the Project applicant to preform preconstruction surveys to ensure that there are no impacts to special status species that have potential habitat even though none have been observed (i.e., burrowing owl, giant garter snake, western pond turtle, etc.). Additionally, the Project applicant must implement various measures in order to avoid and/or minimize impacts on Swainson's hawk and their habitat. As part of the measure, compensatory mitigation for the permanent loss of Swainson's hawk foraging habitat would be provided at a ratio of one to one. The Project applicant shall either provide lands protected through fee title acquisition or conservation easement (acceptable to the CDFW) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk. Surveys for other special-status species and other measures to minimize potential for effects during project construction would also be required.*

COMMUNITY CHARACTER DESIGN ELEMENT POLICIES

The Community and Character Design Element of the General Plan establishes numerous policies and implementation measures related to biological resources as listed below:

DESIGN-15.1. The City will identify land to create an open space system that links, parks, greenbelts, wildlife habitats, the Stanislaus River corridor, channels, and other critical areas. Impacts on the environmental functions of critical areas shall be considered in the development of open space system links.

- ***Consistent**: Park basin areas and other trails would be provided throughout the Project Area in order to provide open space system links. The River Walk Park, proposed adjacent to the Stanislaus River, consists of passive nature preserves which foster appreciation and understanding of the natural riparian habitat provided by the Stanislaus River. Examples of passive recreation facilities may include walking trails, picnic tables, bench areas, outdoor exercise stations, wildlife viewpoints, and river access points for non-motorized travel (i.e., swimming, kayaking, or canoeing).*

DESIGN-15.2. The City will require integration in the design of an open space system natural features that also provide flood protection, wildlife habitat, and other environmental enhancements.

- ***Consistent**: As noted above, park basin areas and other trails would be provided throughout the Project Area in order to provide open space system links. The River Walk Park, proposed adjacent to the Stanislaus River, consists of passive nature preserves which foster appreciation and understanding of the natural riparian habitat provided by the Stanislaus River. The River Walk Park would be connected to a trail system that follows the bluff bordering the Berghill boundary. The trail loop would also connect to parks in order to provide linkages to the internal portions of the Project Area. Additionally, as discussed in Section 3.9 of this EIR, the following design standards from the City of Riverbank Low Impact Development Design and Specifications Manual must be implemented for all project classifications:*

    - *Mitigate peak run-off flow rates*
    - *Conserve and create natural areas*
    - *Minimize storm water pollutants of concern*
    - *Protect slopes and channels*
    - *Provide storm drain stenciling and signage*
    - *Properly design outdoor material and trash storage areas*
    - *Provide proof of ongoing BMP practices and maintenance*
    - *Incorporate treatment control BMPs for water quality*

DESIGN-15.4. The City will require and pursue the preservation and enhancement of public access to riverfront recreation / natural areas while protecting sensitive habitats.

- ***Consistent**: The Project site includes on-site riverfront recreation access areas along the Stanislaus River corridor. The proposed Specific Plan would preserve and enhance public access to the river corridor in areas that already provide access. Additionally, as noted above, the riparian habitat located in the Project Area would not be developed as part of the proposed Specific Plan. As part of the proposed Specific Plan, land located adjacent to the river is proposed for Reserve, Buffer/Greenway/Open Space – Bluff, or Buffer/Greenway/Open Space – River Park uses. Mitigation Measures have been incorporated into this EIR to ensure sensitive habitats are protected to the extent feasible.*

MUNICIPAL CODE

Chapter 156, Oak and Landmark Tree Preservation, of the Riverbank Municipal Code calls for the conservation and protecting of existing landmark trees and oak trees within the City. Landmark trees are defined under Section 156.02 of the Code as: Trees that are: (1) six inches or greater in diameter at breast height (DBH); (2) in good health; and (3) of preferred species in order: (a) oak, (b) deciduous and (c) evergreen; (4) other such trees with significant impact (including but not limited to: age, size, location, outstanding habitat value, superior beauty, historical and/or cultural significance) on the surrounding area. Landmark Tree may also mean an "oak tree." Fruit trees and other trees used for agricultural purposes and production on existing lots created prior to June 8, 2006, are specifically excluded as being landmark trees. Additionally, oak trees are defined as a valley oak tree (*Quercus*

lobata) with a trunk diameter of two inches or greater at a point 4.5 feet above the root crown (also referred to as "two inches diameter breast height [DBH]"). Oak tree may also mean a "landmark tree."

Section 156.14 of the Code outlines methods and standards for tree protection during construction activities. Section 156.10 notes that removal, destruction, mutilation, poisoning, or other attempts to kill a landmark/oak tree in the City is prohibited without a tree conservation permit. Prior to issuance of the tree removal permit, the property owner will be required to pay a permit fee and submit the appropriate cash bond to insure tree replacement. As a condition of the tree conservation permit, a Project applicant shall submit a cash bond equal to the cost of the conservation efforts outlined in the adopted plan, as determined by the City. The bond shall be held for the purpose of assuring that the conservation efforts are implemented. If it is determined that practices violating any portion of the municipal code have resulted in tree damage, then the city may require that a cash bond, equal to the replacement value of the damaged tree(s), be submitted. The bond shall be held for the purpose of assuring that all remedial actions required by the city to minimize tree damage are taken, and/or for the purpose of assuring tree replacement should any damaged trees die or show noticeable signs of decline, as determined by a certified arborist, within a designated period of evaluation.

- ***Consistent**: The Project Area contains numerous ornamental landscaping and shade trees in association with the existing residences, farm structures, and roadways. The ornamental trees are not protected under the municipal code and removal of these ornamental trees would not require authorization.*

  Numerous trees are located in the riparian corridor along the Stanislaus River. This area is characterized by a canopy layer of cottonwoods, California sycamores, and valley oaks. Subcanopy cover trees are white alder, boxelder, and Oregon ash. The Specific Plan will not require any removal of trees in the riparian area.

  There is an extensive amount of large mature oak trees located along the bluff area that encircles the Berghill Property. Most of the oak tree habitat in the bluff area is anticipated to remain undisturbed as part of the Specific Plan. This area is designated for Buffer/Greenway/Open Space. The exception is the area where the three access roads will enter the Berghill Property. These three areas will require removal of some oak tree habitat, which may include the removal of some mature oak trees. The improvement plans have not yet been prepared so it is not known exactly how many trees would require removal, and how many can be avoided with the construction of these three roadways. It may be possible for specific trees to be incorporated into the final design of the development once the more detailed engineering effort begins. Nevertheless, any trees that cannot remain in the final design must be replaced in accordance with Section 156.14 of the Code. This requirement is included in Mitigation Measure 3.4-10.

CONCLUSION

In summary, the proposed Project is substantially consistent with the local policies and ordinances protecting biological resources, such as a tree preservation policy or ordinance. The Project has been

designed with ample open space, park, and trail areas in order to maintain open space linkages to the extent feasible. The Project would be required to comply with applicable policies to minimize impacts to special-status species and their associated habitat. Where impacts are identified, mitigation measures are presented to minimize, avoid, or compensate to the extent practicable. Therefore, this impact would be considered ***less than significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-11: *Prior to and during construction, the Project applicants shall comply with Chapter 156, Oak and Landmark Tree Preservation, of the Riverbank Municipal Code, which calls for the conservation and protecting of existing landmark trees and oak trees within the City. Landmark trees are defined under Section 156.02 of the Code as: Trees that are: (1) six inches or greater in diameter at breast height (DBH); (2) in good health; and (3) of preferred species in order: (a) oak, (b) deciduous and (c) evergreen; (4) other such trees with significant impact (including but not limited to: age, size, location, outstanding habitat value, superior beauty, historical and/or cultural significance) on the surrounding area. Landmark Tree may also mean an "oak tree." Fruit trees and other trees used for agricultural purposes and production on existing lots created prior to June 8, 2006, are specifically excluded as being landmark trees. Additionally, oak trees are defined as A valley oak tree (Quercus lobata) with a trunk diameter of two inches or greater at a point 4.5 feet above the root crown (also referred to as "two inches diameter breast height [DBH]"). Oak tree may also mean a "landmark tree."*

Pursuant to Section 156.12, prior to submission of an application for development, the applicant is encouraged to meet with the Community Development Director to discuss the tree protection ordinance as it relates to the applicant's property. Should removal of protected trees be required, the permit applicant requirements in Section 156.12 of the Code shall be followed.

Further, pursuant to Section 156.14 of the Code, the following methods and standards for tree protection shall be implemented during construction activities:

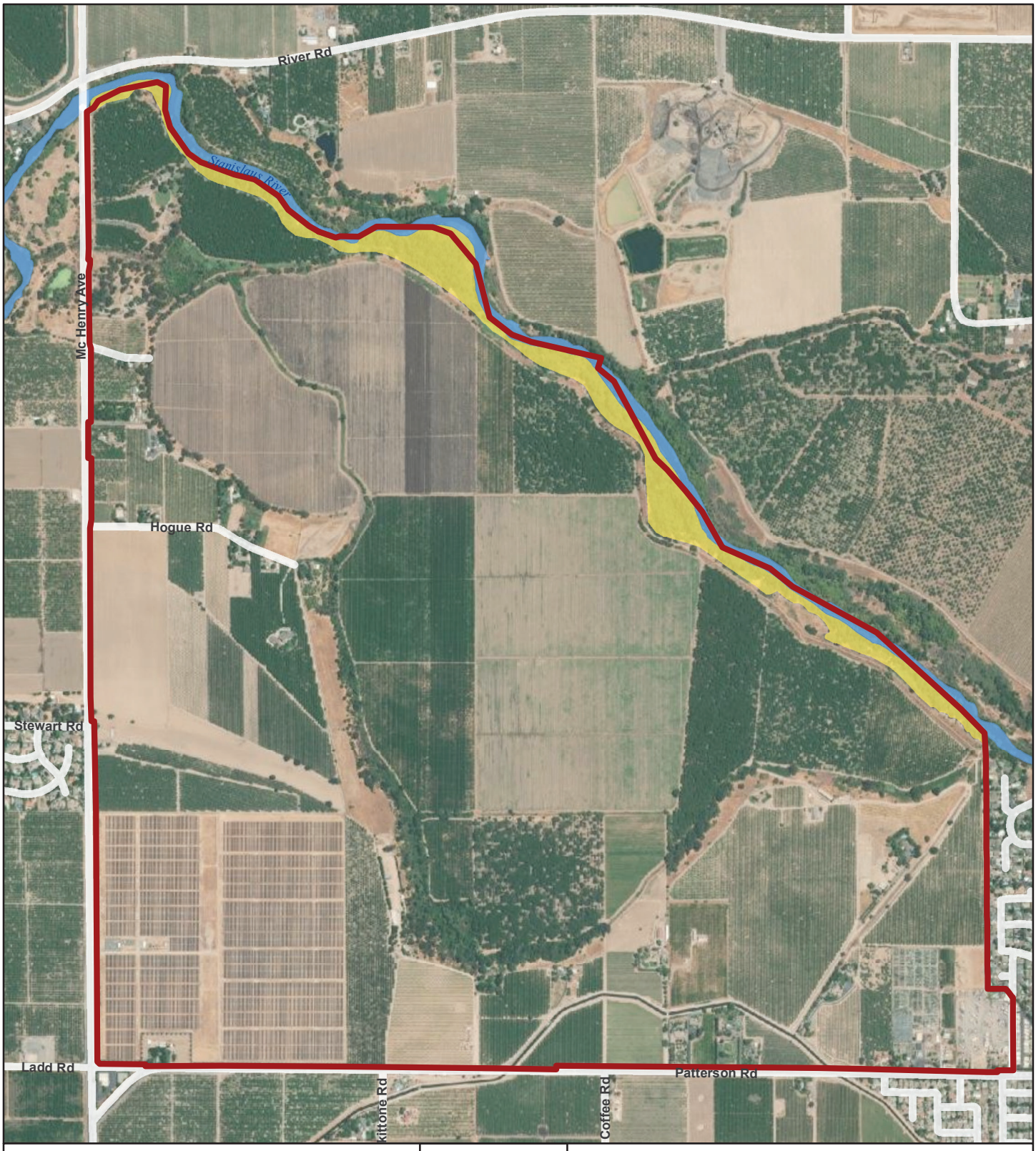
> *(A) Trees identified to be preserved shall have four-foot, orange-tree-protection fencing installed at the critical root zones.*
>
> *(B) (1) No person engaged in the construction of any structure(s) or improvement(s) or any activity shall encroach or place solvents, material, construction machinery or temporary soil deposits within six feet of the area outside the critical root zone, as defined herein, of any existing significant tree within a tree save area, transitional or undisturbed buffer zone.*
>
> *(2) When proposed developments encroach into the crown dripline area of any landmark/oak tree, special construction to allow the roots to breathe and obtain water shall be engineered and implemented, as determined by the Community Development Director.*
>
> *(C) All tree protection devices must remain in functioning condition until the project is completed or until the certificate of occupancy is issued.*

(D) (1) Any tree designated in the plan to be saved, which is negligently damaged during construction or as a result of negligent construction, as determined by the arborist, shall be treated according to accepted National Arborists Association Standards.

(2) If fatally damaged, trees shall he replaced with six-inch-caliper trees equal to five times the diameter of the tree removed

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation Measure 3.4-10 requires compliance with the City's Oak and Landmark Tree Preservation Ordinance. With implementation of the above mitigation measure, the proposed Project would have a ***less than significant*** impact related to conflicts with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.



Legend

- Project Area
- Riparian Zone (52.02 ac)

N

0 500 1,000

Feet

Sources: Stanislaus County GIS; ArcGIS Online World Imagery Map Service. Map date: April 1, 2022.

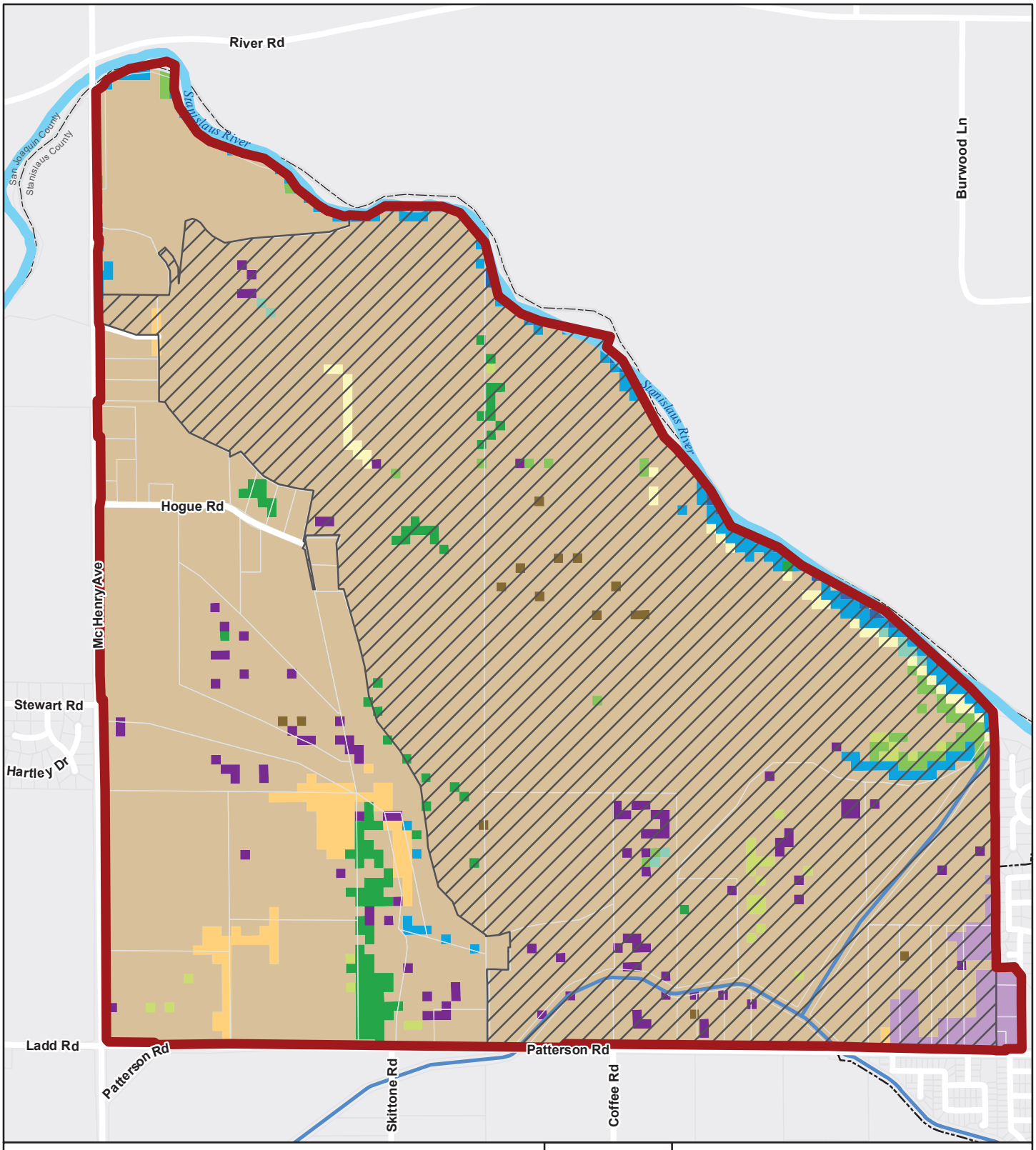
RIVERWALK SPECIFIC PLAN

Figure 3.4-1. Riparian Zone

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Legend

- Project Area
- Specific Plan Area
- City of Riverbank
- County Boundary
- Annual Grassland
- Pasture
- Cropland
- Irrigated Grain Crops/Row Crops/Hayfield
- Dryland Grain Crops
- Deciduous Orchard
- Evergreen Orchard
- Fresh Emergent Wetland
- Riverine
- Valley Foothill Riparian
- Vineyard
- Urban

N

0 500 1,000

Feet

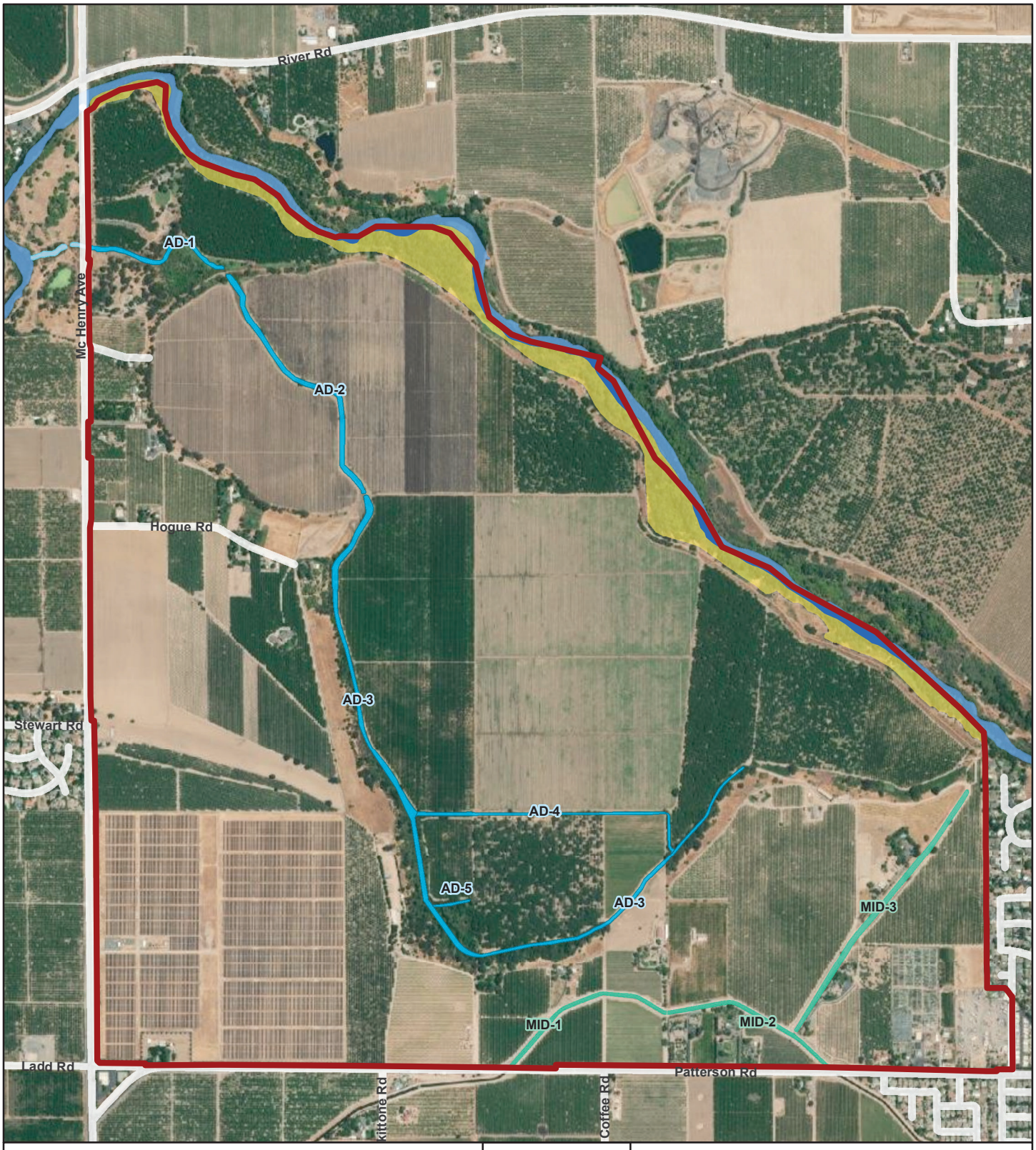
Sources: Stanislaus County GIS; FVEG 2015. Map date: June 15, 2022.

RIVERWALK SPECIFIC PLAN

Figure 3.4-2. Land Cover Types

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Legend

- Project Area

On-Site Aquatic Resources

- Stanislaus River (6.94 ac)
- Agricultural Ditch (15.22 ac)
- Riparian Zone (52.02 ac)
- MID Canal (6.48 ac)

Off-Site Features

- Stanislaus River
- Agricultural Ditch

N

0 500 1,000

Feet

Sources: Stanislaus County GIS; ArcGIS Online World Imagery Map Service 6/18/2021. Map date: June 15, 2022.

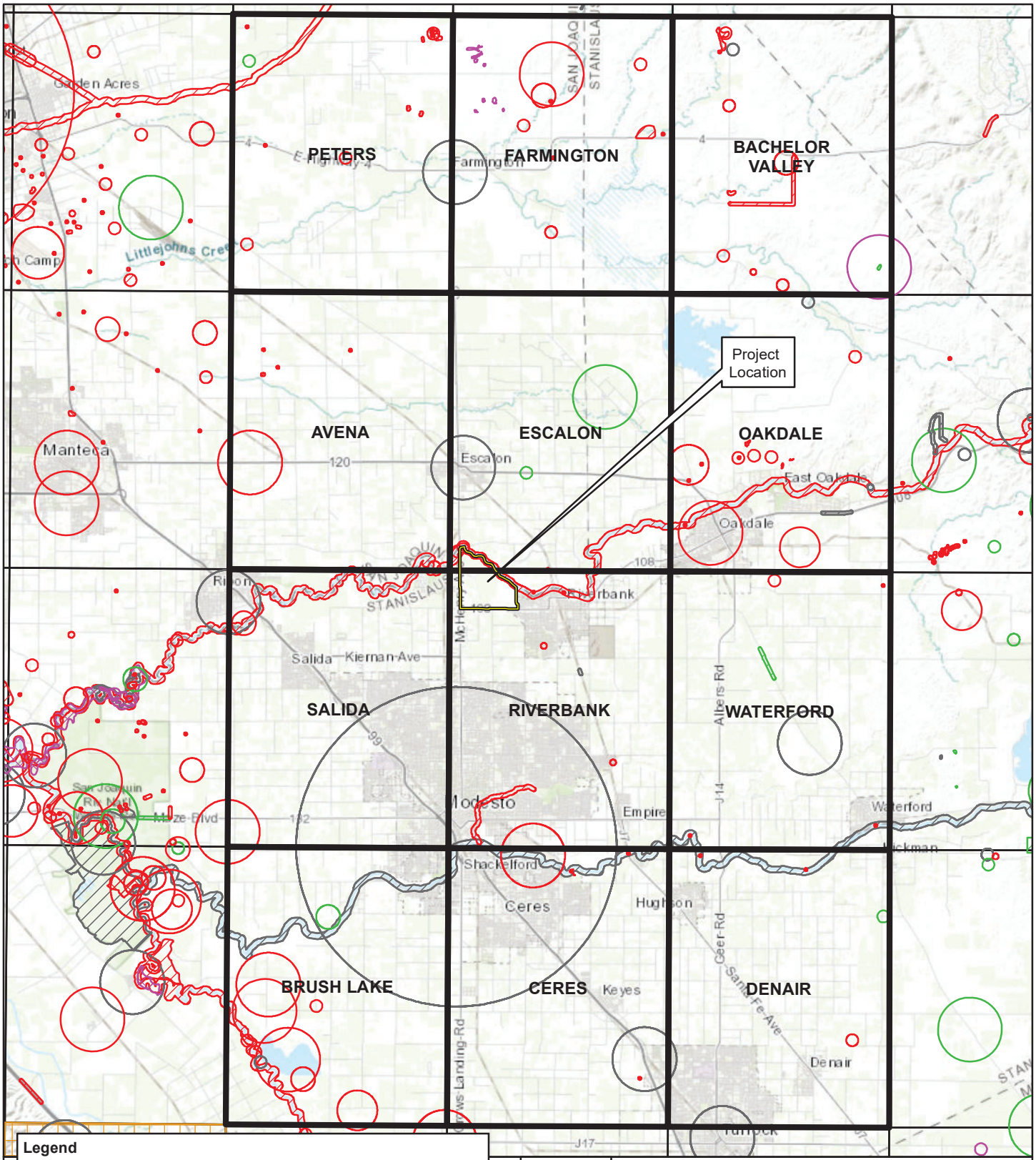
RIVERWALK SPECIFIC PLAN

Figure 3.4-3. Aquatic Resources

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Source: CNDDB version 01/2021. Note: the occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area. Basemap source: ArcGIS Online. Date: January 29, 2021.

RIVER WALK SPECIFIC PLAN

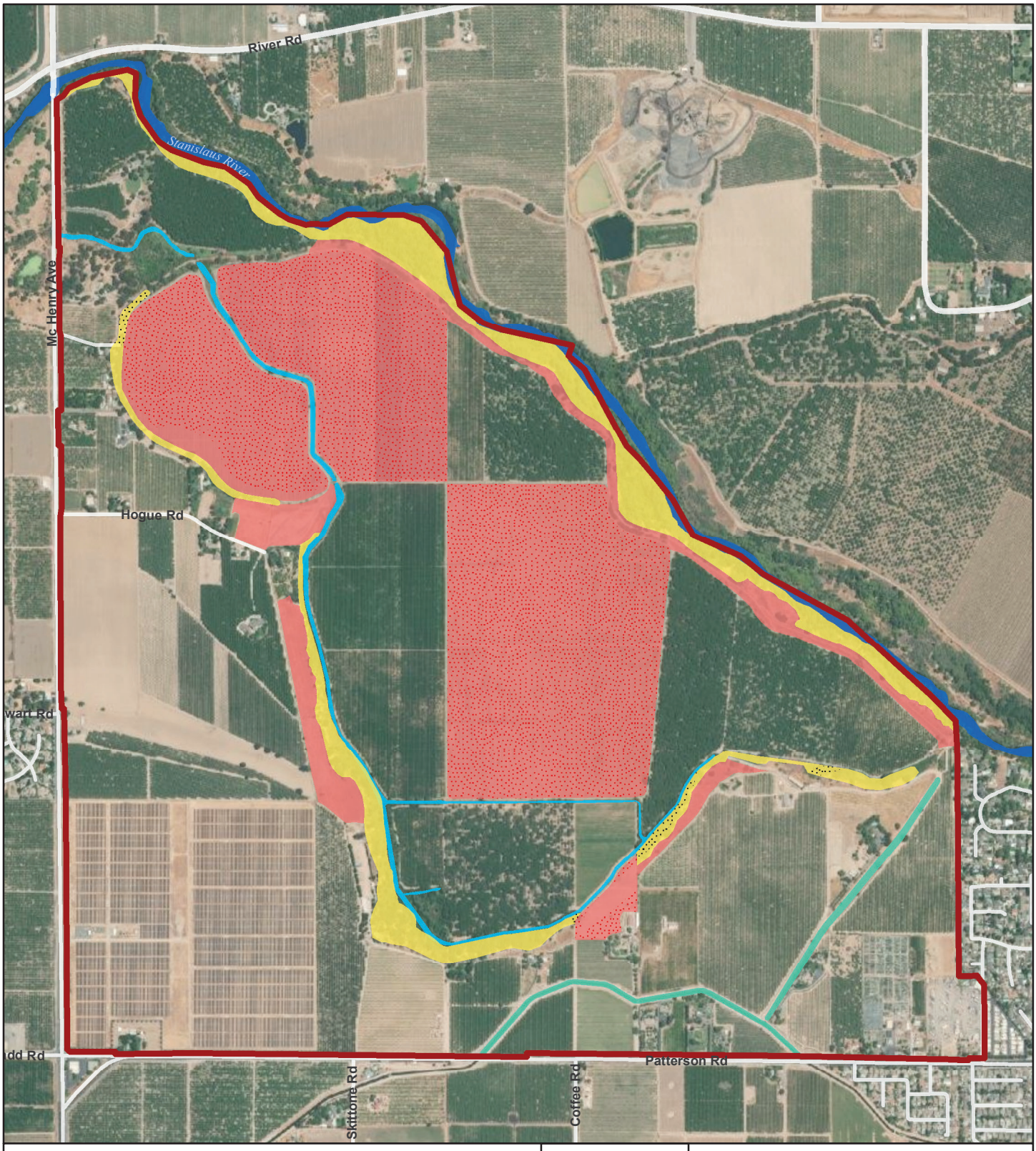
Figure 3.4-4
California Natural Diversity Database

9-quad* Search

*because the project is within 2 quads, the 9-quad search was expanded to 12 quads

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Legend

- Project Area
- Stanislaus River
- Agricultural Ditch
- MID Canal

Swainson's Hawk Habitat

- Total Nesting Habitat (≈ 83.37 acres)
- Total Foraging Habitat (≈ 365.91 acres)
- Nesting Habitat Impacted by Project (≈ 3.31 acres)
- Foraging Habitat Impacted by Project (≈ 304.80 acres)

N

0 500 1,000

Feet

Sources: Stanislaus County GIS; ArcGIS Online World Imagery Map Service, 6/18/21. Map date: June 15, 2022.

RIVERWALK SPECIFIC PLAN

Figure 3.4-5.
Swainson's Hawk Habitat

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This section provides a discussion of the prehistoric period background, ethnographic background, historic period background, known cultural resources in the region, the regulatory setting, an impact analysis, and mitigation measures. The Notice of Preparation (NOP) for the proposed Project was sent to the Native American Heritage Commission (NAHC) via the State Clearinghouse. There were no comments received during the public review period for the NOP related to cultural resources. Full comments received are included in Appendix A.

Information in this section is derived primarily from the *Cultural Resource Assessment for the River Walk Project Area, City of Riverbank, California* (Peak & Associates, Inc., September 2021).

3.5.1 ENVIRONMENTAL SETTING

PROJECT SETTING

The Project Area is located in the unincorporated area of Stanislas County and adjacent to the City of Riverbank, north of Patterson Road/State Route (SR) 108, east of McHenry Avenue, and about two miles northwest of downtown Riverbank. The entire Project Area includes approximately 1,522 acres within the unincorporated county adjacent to the City of Riverbank.

The overall Project Area includes several distinct planning boundaries defined below.

- SOI Expansion Area – includes the proposed Sphere of Influence Amendment and encompasses the entire Project Area.
- Specific Plan Area - includes all lands identified and included within the River Walk Specific Plan. The Specific Plan Area is proposed to be annexed into the City of Riverbank as part of the proposed Project. The Specific Plan Area is a portion of the SOI Expansion Area.
- Berghill Boundary – includes areas within the Specific Plan Area that are controlled by the project applicant.
- Project Area - includes the SOI expansion area, including the Specific Plan and Berghill Boundary. The Project Area is the same boundary as the SOI Expansion Area.

Project area boundaries are shown on Figure 2.0-2 and acreages associated with each area are shown in Table 2.0-1. As shown on Figure 2.0-2 and in Table 2.0-1 (reproduced below as Table 3.5-1), the proposed Project includes approximately 1,522 acres encompassing: (1) the Specific Plan Area that includes a total of 997 acres, including the Berghill Boundary, and (2) the SOI Expansion Boundary, which makes up the entire Project Area.

TABLE 3.5-1: PLANNING AREA BOUNDARY ACREAGES

PLANNING AREA BOUNDARY	*ACRES (GIS)*
Specific Plan Area	997 acres
Overall Project Area	1,522 acres

The Project Area is located in Sections 16, 21, 22, 23, 27 and 28, Township 2 South, Range 9 East, Mount Diablo Baseline and Meridian, mapped on the Riverbank and Escalon United States Geological Survey (USGS) 7.5-minute topographic quadrangles.

CULTURAL AND HISTORICAL SETTING

Prehistory

The Central Valley region was among the first in the state to attract intensive fieldwork, and research has continued to the present day. This has resulted in a substantial accumulation of data.

In the early decades of the 1900s, E.J. Dawson explored numerous sites near Stockton and Lodi, later collaborating with W.E. Schenck (Schenck and Dawson 1929). By 1933, the focus of work was directed to the Cosumnes locality where survey and excavation studies were conducted by the Sacramento Junior College (Lillard and Purves 1936). Excavation data, in particular from the stratified Windmiller site (CA-Sac-107), suggested two temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California, Berkeley, enabled the investigators to identify a third cultural tradition, intermediate between the previously postulated Early and Late Horizons. The three-horizon sequence, based on discrete changes in ornamental artifacts and mortuary practices, as well as on observed differences in soils within sites (Lillard, Heizer and Fenenga 1939), was later refined by Beardsley (1954). An expanded definition of artifacts diagnostic of each time period was developed, and its application extended to parts of the central California coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California.

The Windmiller Culture (Early Horizon) is characterized by ventrally-extended burials (some dorsal extensions are known), with westerly orientation of heads; a high percentage of burials with grave goods; frequent presence of red ocher in graves; large projectile points, of which 60 percent are of materials other than obsidian; rectangular *Haliotis* beads; *Olivella* shell beads (types A1a and L); rare use of bone; some use of baked clay objects; and well-fashioned charmstones, usually perforated.

The Cosumnes Culture (Middle Horizon) displays considerable changes from the preceding cultural expression. The burial mode is predominately flexed, with variable cardinal orientation and some cremations present. During the Middle Horizon, there is a lower percentage of burials with grave goods, and ocher staining is common in graves. *Olivella* beads of types C1, F and G predominate, and there is abundant use of green *Haliotis* sp. rather than red *Haliotis* sp. Other characteristic artifacts include perforated and canid teeth; asymmetrical and "fishtail" charmstones, usually unperforated; cobble mortars and evidence of wooden mortars; extensive use of bone for tools and ornaments; large projectile points, with considerable use of rock other than obsidian; and use of baked clay.

The Hotchkiss Culture (Late Horizon) burial pattern retains the use of the flexed mode. There is wide spread evidence of cremation, and lesser use of red ocher, heavy use of baked clay, *Olivella* beads of Types E and M, extensive use of *Haliotis* ornaments of many elaborate shapes and forms, shaped mortars and cylindrical pestles, bird-bone tubes with elaborate geometric designs, clam shell disc beads, small projectile points indicative of the introduction of the bow and arrow, flanged tubular pipes of steatite and schist, and use of magnesite (Moratto 1984:181-183). The characteristics noted are not all-inclusive, but cover the more important traits.

Schulz (1981), in an extensive examination of the central California evidence for the use of acorns, used the terms Early, Middle and Late Complexes, but the traits attributed to them remain generally the same. While it is not altogether clear, Schulz seemingly uses the term “Complex” to refer to the particular archeological entities (above called “Horizons”) as defined in this region. Ragir's (1972) cultures are the same as Schulz's complexes.

Bennyhoff and Hughes (1984) have presented alternative dating schemes for the Central California Archeological Sequence. The primary emphasis is a more elaborate division of the horizons to reflect what is seen as cultural/temporal changes within the three horizons and a compression of the temporal span.

There have been other chronologies proposed, including Fredrickson (1973), and because it is correlated with Bennyhoff's (1977) work, it does merit discussion. The particular archeological cultural entities Fredrickson has defined, based upon the work of Bennyhoff, are patterns, phases and aspects. Bennyhoff's (1977) work in the Plains Miwok area is the best definition of the Cosumnes District, which likely conforms to Fredrickson's pattern. Fredrickson also proposed periods of time associated heavily with economic modes, which provides a temporal term for comparing contemporary cultural entities. It corresponds with Willey and Phillips' (1958) earlier “tradition”, although it is tied more specifically to the archeological record in California.

Ethnography

The Project Area lies within the ethnographic territory of the Yokuts people. The Yokuts were members of the Penutian language family which held all of the Central Valley, San Francisco Bay Area, and the Pacific Coast from Marin County to near Point Sur. The Yokuts differed from other ethnographic groups in California as they had true tribal divisions with group names (Kroeber 1925; Latta 1949). Each tribe spoke a particular dialect, common to its members, but similar enough to other Yokuts that they were mutually intelligible (Kroeber 1925).

The Yokuts held portions of the San Joaquin Valley from the Tehachapis in the south to Stockton in the north. On the north, they were bordered by the Plains Miwok, and on the west by the Saclan or Bay Miwok and Costonoan peoples. Although neighbors were often from distinct language families, differences between the people appear to have been more influenced by environmental factors as opposed to linguistic affinities. Thus, the Plains Miwok were more similar to the nearby Yokuts than to foothill members of their own language group. Similarities in cultural inventory co-varied with distance from other groups and proximity to culturally diverse people. The material culture of the southern San Joaquin Yokuts was therefore more closely related to that of their non-Yokuts neighbors than to that of Delta members of their own language group.

Trade was well developed with mutually beneficial interchange of needed or desired goods. Obsidian, rare in the San Joaquin Valley, was obtained by trade with Paiute and Shoshoni groups on the eastern side of the Sierra Nevada, where numerous sources of this material are located, and to some extent from the Napa Valley to the north. Shell beads, obtained by the Yokuts from coastal people, and acorns, rare in the Great Basin, were among many items exported to the east by Yokuts traders (Davis 1961).

Economic subsistence was based on the acorn, with substantial dependency on gathering and processing of wild seeds and other vegetable foods. The rivers, streams, and sloughs that formed a maze within the valley provided abundant food resources such as fish, shellfish, and turtles. Game, wild fowl, and small mammals were trapped and hunted to provide protein augmentation of the diet. In general, the eastern portion of the San Joaquin Valley provided a lush environment of varied food resources, with the estimated large population centers reflecting this abundance (Cook 1955; Baumhoff 1963).

Settlements were oriented along the water ways and village sites were normally placed adjacent to these features for their nearby water and food resources. House structures varied in size and shape (Latta 1949; Kroeber 1925), with most constructed from the readily available tules found in the extensive marshes of the low-lying valley areas. The housepit depressions for the structures ranged in diameter from three to 18 meters (Wallace 1978:470).

The Yokuts living in the Modesto vicinity at the time of contact with the Spanish were members of the Lakisamne tribelet. Under various spellings, references to this tribelet are common in early traveler's accounts and the mission records (Wallace 1978:470).

Historical Background

In 1867, Major James Burney constructed a ferry at the point where the steel bridge crosses the Stanislaus River. The ferry was operated by a number of different individuals, and eventually became operated by the County. As early as 1889, citizens had asked for a bridge crossing the river to replace the ferry. After a series of serious accidents, the ferry was closed in 1919. In 1928, a steel bridge was finally completed across the river. The bridge had been built too low, and was threatened several times by floods. It also could not carry heavier trucks. The two counties eventually agreed to the construction of a new bridge, completed in 1967.

Around the original ferry, a small settlement grew up and became known as Burneyville. The town of Burwood, two miles north served as the post office for the community. The first building to be built was a warehouse, and in the early 1870s the town contained several residences, a grocery store, blacksmith, hotel, two or three saloons, a dry goods store and a shoe shop.

Riverbank, always a distinct community from Burneyville, began as a flag-stop depot on the San Francisco and San Joaquin Valley Railroad. The company began surveys and construction on the route south from Stockton in 1891 and 1892. By 1896, the route had been completed as far south as Fresno. The railroad was sold in 1898 to the Atchinson, Topeka and Santa Fe Railroad (now the Burlington Northern Santa Fe). Because Burneyville was below the bluff and the bridge and trestle, the company only maintained a depot about a half-mile to the south of the river. This flag-stop was selected by the railroad for the location of a roundhouse and repair shops, and led to the development and naming of Riverbank (Brotherton 1982: 57-62).

PROJECT AREA HISTORY

Early maps indicate that the Project Area was part of a Mexican land claim, with the 1854 General Land Office plat of the Township (Township 2 South Range 8 East) showing it as the rejected Roland

grant. A check of the compendium of Northern District Court cases of 1853-1858 regarding land claims in California shows that Juan Roland had claimed 11 leagues of land (63,360 acres) at the junction of the San Joaquin and Stanislaus rivers, that was granted to him by Mexican governor Pío Pico on May 2, 1846. Roland filed a claim for the land with the land commission in 1852, with the claim rejected on January 31, 1854 (Hoffman 1862).

The uncertainty of the claim may have kept the land unsettled in the early years. It is likely that early miners may have tried placer mining along the river, but no early settlements were made within the area. To the northeast of the Project Area, the crossing of the Stanislaus was handled by the Bailey Ferry, starting in 1870, at what would be adjacent downstream to the current bridge crossing at McHenry Road. In 1898, Bailey petitioned for a bridge across the river to replace the ferry; the County Supervisors delayed the change until 1911 (Brotherton 1982).

The Project Area has apparently always been used for agriculture. The western portion was owned by McHenry and Company, with the eastern land owned by Joseph Spenker (Official County map 1883).

The McHenry family is an important early family in Modesto. Robert McHenry, born in 1827 in Vermont, came to California in 1846 during the Mexican War. In 1849, he settled temporarily in Stockton, where he freighted goods to the mining town of Chinese Camp. He soon moved to Stanislaus County, taking up the lands of the Bald Eagle Ranch. He expanded his holdings to 4,000 acres, and in 1878, moved into Modesto to work as a banker.

His son, Oramil, succeeded in the banking business as well as in the ranching operations. At the time of his death in 1906, he owned 6,000 acres in Stanislaus County as well as large holdings in Fresno and Kern counties. Two of his sons took over the management of the Bald Eagle Ranch, with the ranch headquarters located about a mile south of the Project Area on Crawford Road. Although the exact boundaries of the Bald Eagle Ranch are not known, it is likely the western portion of the Project Area was a portion of the ranch. The McHenry brothers had 120 acres of peaches, apricots, olives, walnuts, with the largest acreage planted to figs. The land was irrigated with well water and supplemented with irrigation water from the Modesto Main Canal.

McHenry had a son, Merl, with his second wife, Myrtie. Myrtie remarried in 1908, two years after the death of her first husband, and became Myrtie Langdon. She had taken the place of her husband as head of the local bank, the First National Bank of Modesto, resigning to allow her husband to take charge. By 1918, the Langdons had acquired much of the western portion of the property, shown as owned by the Langdonmerl Company on the 1918 County Map.

A large portion of the Project Area are lands first acquired by Joseph C. Spenker, a native of Mecklenburg, Germany, born 1846. Spenker first came to Stockton County in 1864 after sailing from New York, crossing the Isthmus of Panama, and sailing to San Francisco. He worked for his uncle who had travelled with him; he also worked for other farmers. He went to work for Albert Cressey on their wheat farm, and eventually went to Stanislaus County where the Cresseys had 2,500 acres in grain on a ranch due north of Modesto. At the end of fourteen months of service, Calvin Cressey advised Spenker to take up 160 acres of land, 1.5 miles east of their property.

Eventually, Spenker bought a total of 604 acres on the Stanislaus River. After that time, Spenker bought and sold several farms. The land was considered "sub-irrigated bottom-land tip-top for the raising of alfalfa" (Tinker 1921b: 1048). Joseph C. Spenker married Julia Stelling in 1872, and the couple lived at their ranch on Waterford Road rather than their holdings in the Project Area.

The Project Area has continued to be in use for agriculture for both orchards and other crops such as pumpkins.

METHODOLOGY

Records Search

Two record searches have been conducted through the Central California Information Center (CCIC) of the California Historical Resources Information System to obtain information about the sites and surveys of the Project Area (CCIC 11265L, 12-18-19, Appendix 1 of Appendix C) and a 0.125-mile radius of the sewer pipeline (CCIC 11579L, 12-4-20, Appendix 2 of Appendix C).

RECORD SEARCH CCIC 11265L: PROJECT AREA

The first CCIC records search indicates that several portions of the Project Area and adjacent areas have been subject to survey efforts related to development and infrastructure projects. Only one covers a substantial portion of the Project Area (covers 160 acres in the southwest portion), outside the Survey Area. No prehistoric period resources have been previously reported in the Project Area or search radius area.

Resources within the Project Area include the following:

- P-50-1750—Bridge 38-13;
- P-50-2002—Modesto Main Canal; and
- P-50-2321—8018 McHenry.

No resources were recorded within the Berghill Boundary.

Resources within the 0.125-radius of the Project Area include the following:

- P-50-1751—Bridge 38-12;
- P-50-1959—Walton residence-417 Hogue Drive;
- P-50-2320—8124 McHenry Avenue;
- P-50-2322—7709 McHenry Avenue; and
- P-50-2323—7600 McHenry Avenue.

Reports within the Project Area (full citations in Report List, Appendix 2 of Appendix C) include the following:

- SJ-0826 (Peak & Associates 1990);
- SJ-1952 (Derr 1993);
- SJ-7964 (Wills 2014);

- SJ-8138 (Wills and Peterson 2014); and
- SJ-8892 (Marks/Lyons 2017).

Reports within the 0.125-mile radius (full citations in Report List, Appendix 2 of Appendix C) include the following:

- SJ-0369(Swernoff 1982);
- SJ-0921 (Orlins 1977);
- SJ-6625 (ASI 1998);
- SJ-2594 (Werness 1978);
- SJ-7341 (Koenig and Anderson 2011);
- SJ-8284 (AECOM 2011); and
- SJ-8542 (Tomes 2010).

None of the surveys were large enough or recent enough to use for elimination of parts of the Berghill Boundary area from a new field survey.

RECORD SEARCH CCIC 11579L: SEWER LINE

Within the Offsite Sewer Line, one possible prehistoric period resource has been reported. Unfortunately, the site is not mapped with any precision and mentions findings from a gravel pit.

The following resource was recorded within the sewer line survey area:

- SJ-1751—Informal recordation, prehistoric site of indeterminate size/boundaries unknown.

The following report was recorded within the 0.125-radius for the sewer line survey area:

- P-39-0564—Bridge in both Stanislaus and San Joaquin counties.

Reports within (or crossing a portion of) the sewer line survey area (full citations in Report List, Appendix 2 of Appendix C) include the following:

- SJ-0369 (Swernoff 1982);
- SJ-0826 (Peak & Associates1990);
- SJ-0921 (Orlins 1977);
- SJ-1751 (Dodd 1991);
- SJ-4644 (Napton 2002);
- SJ-5575 (Peak & Associates 2004); and
- SJ-6734 (Peak & Associates 2006).

Field Survey: Berghill Boundary

The Berghill Boundary was subject to a complete coverage survey in January, February and March 2020 by Peak & Associates. The survey covered the area with transects no wider than 15 meters located primarily on recently tilled agricultural fields.

Visibility in the agricultural fields was excellent as no vegetation was present and recent heavy rains had exposed much lithic material. In more sensitive areas, ten meter transects were employed, with occasional overlapping and closer scrutiny. The locations of the older building sites were checked.

Field Survey: Sewer Line

The sewer line survey area is largely linear, extending from the south side of the Stanislaus River, beneath the riverbed, emerging on the north side of the river, and then continuing east along an existing levee and ending at the wastewater treatment plant.

The southern portion of the pipeline had been covered by the Berghill Boundary survey in 2020. The survey strategy consisted of following the proposed alignment of the pipeline through the existing wastewater treatment facility and through fallow agricultural fields at the toe of the north side levee of the Stanislaus River. Two parallel transects five meters apart were used for observation; one in each direction from the starting and stopping point, with attention paid to the slope of the levee as well as the agricultural fields.

Due to historical accounts of possible human graves disturbed during industrial work within the wastewater treatment plant, the survey strategy was intense and complete. Two to three meters spacing between parallel transects was employed. Stockpiles of gravel, likely imported, and native soil were present and each were inspected closely for cultural material.

Soil encountered during the survey outside the wastewater treatment plant was uniformly light tan loamy silt, with some sand and very few pebbles or cobbles. The soil on the surface of the levee was noted as the same in color and composition as in the adjacent agricultural fields. Shallow cuts for ditches and raised farm roads revealed identical soil.

Special care was taken when any stone or soil change was encountered to inspect closely for signs of cultural effect. The Stanislaus River is known to be a prehistoric source of tool stone and nearby known archaeology sites have revealed a wide variety of lithic material.

Visibility was good to excellent due to well-managed vegetation and weed abatement, rodent disturbance, erosive channels and animal trails. Although there are some areas of dense grass and brush along the levee, it was easily pulled back at regular intervals to inspect ground soil. Ground visibility within the wastewater treatment plant was excellent due to weed abatement.

No artifacts or other objects associated with prehistoric or historic habitation or use were observed during the survey.

Cultural Resources

During the field survey of the Berghill Boundary, three areas containing prehistoric period resources (sites ML-20-02, ML-20-03), and one prehistoric/historic period surface artifact (site ML-20-01) were discovered. Two resources (sites ML-20-04, ML-20-05) were also surveyed to determine whether they are historic. Each resource is discussed in further detail below.

PREHISTORIC/HISTORIC PERIOD SURFACE ARTIFACT ML-20-01

The resource consists of a scatter of prehistoric and historic period artifacts and a single-family residence with a detached garage located to the east of the artifact scatter. The residence on the property is a long narrow building that appears to have been built in pieces over the years, then finished in an unusual vernacular style. Overall, it is a one-story building in the Spanish Revival style. Judging by roof lines, there are five separate building periods represented, plus a detached garage on the west. Many windows retain the original metal framed casement window style, although some are now aluminum sliders. An unusual feature of the structure is stucco work over the original siding that includes rounded corners at many of the wall angles. There is also exposed brick portions of the siding forming arches over main widows on the front (southern) elevation. These arches are reminiscent of the round arched windows characteristic of Spanish Revival.

The artifact scatter located west of the residence and garage has about 75 historic period artifacts on the surface including fragments of dinner ware and other pottery and many fragments of purple, milk, aqua, and amber glass. The prehistoric fragments are much rarer and consist primarily of waste flakes in obsidian and various fine-grained silicates although there are at least two cores and occasional ground stone (manos).

The residence does not appear on USGS maps until the 1953 edition of the Riverbank 7.5-minute topographic map. However, the artifact scatter includes the area of a house that appears on the 1916 edition of the USGS map.

PREHISTORIC PERIOD RESOURCE ML-20-02

The resource consists of a sparse scatter of prehistoric period lithic tool manufacturing waste located mostly within a small field of row crops south of the levee bordering the Stanislaus River. The sparse scatter of lithic debitage covers an area of 89 meters north-south by about 55 meters wide. The sparse scatter consists almost entirely of waste flakes, although a shaped core was located at the northern end of the site next to the road and a small hand stone was also present.

The site was planted in orchard trees (possibly walnuts) that were removed sometime between 2006 and 2009. The tree cover within the site appeared sparse in comparison to surrounding areas, so the impact of tree removal was also probably correspondingly less. The natural sediment in this area is nearly flat (0 to 1 percent slopes); as such, some surface grading probably occurred when the field was converted to row crops, but that grading would not have likely been significant.

PREHISTORIC PERIOD RESOURCE ML-20-03

The resource consists of a very sparse scatter of prehistoric period tool manufacturing debris covering an area about 150 meters long and 50 meters wide. The resource is located near the levee bordering the Stanislaus River to the west of site M-20-02. A core was found along with a hand stone and a shaped bifacial tool. Shell fragments of freshwater mollusks were also present.

The site was planted in orchard trees (possibly walnuts) that were removed sometime between 2017 and 2018. The tree cover within most of the site is extensive with the exception of a small portion in the center near the levee that had fewer trees.

RESOURCE ML-20-04

The resource consists of a large barn. The barn is located to the east of site M-20-01. The barn first appears on the 1969 edition of the USGS map. The building is a frame structure with a large interior bay and a hayloft with hoisting equipment. The building was built between 1953 and 1969.

RESOURCE ML-20-05

The resource consists of an irrigation ditch located in the northwestern portion of the Project Area. The ditch is earthen lined measuring on average 20 feet wide and about six feet deep.

The resource is first shown on the 1968 USGS Escalon 7.5-minute series map that was based on aerial photographs taken in 1967. It appears that this ditch is a realignment of ditch shown on the USGS 1953 Escalon 7.5-minute series topographic map that was shown in the same general area.

MODESTO IRRIGATION DISTRICT DRAINAGE CANAL SEGMENT

The resource is an earthen lined drainage canal located between the Modesto Main Irrigation Canal (south) and Stanislaus River (north). The drainage canal is approximately 24 feet wide by about six feet deep. The Specific Plan Area encompasses only a small, about 200-foot-long portion, of this linear resource. The resource is first shown on the 1953 USGS Riverbank 7.5-minute series map that was based on aerial photographs taken in 1950.

Site Testing

In order to determine whether or not the three areas containing prehistoric period (sites ML-20-02, ML-20-03), and prehistoric/historic period surface artifacts (site ML-20-01) possess intact deposits of cultural material below the ground surface, a series of 50 cm by 50 cm excavation pits (STPs) were excavated across the surface area of the three resources during July 2020. The units were excavated in 20 cm increments and the excavated sediment was passed through one-eighth inch mesh shaker screens. Cultural material, when encountered, was collected and recorded at the completion of each level but was not collected instead being returned with the backfill at the completion of the test unit.

PREHISTORIC/HISTORIC PERIOD SURFACE ARTIFACT ML-20-01

Twenty test units were excavated, with Test Units 1 and 10 excavated to a depth of 80 cm, test Units 4 and 6 excavated to a depth of 60 cm, and the remaining sixteen units excavated down to a depth of 40 cm. All of the test units had historic period (and in some cases modern) material. Fifteen test units had small amounts of prehistoric period material mostly mixed with historic period artifacts.

PREHISTORIC PERIOD RESOURCE ML-20-02

In order to determine whether or not a subsurface deposit of artifacts was associated with the sparse surface scatter, a series of shovel test pits (STPs) were excavated. Stone tools, tool manufacturing debris, bone tools, shell, fire cracked rock, charcoal, and burnt bone fragments were discovered extending down to a depth of at least 60 centimeters (cm). Some rodent disturbance was observed, but most of the STPs uncovered a mostly intact A/C horizon split at the depth identified for the soil series. After the depth and overall integrity of the cultural deposit was confirmed, the remaining STPs were excavated to determine the extent (size) of the resource. No artifacts were collected.

Eighteen test units were excavated. Six test units (STPs 1-6) were excavated in the area with the highest concentration of surface artifacts, while the remaining twelve were placed in order to determine the extent. Each of the test units were excavated down to sterile sediment that ranged between 40 to 80 cm below the ground surface. Between the surface and rough 40 to 60 centimeters, a variety of chipped and ground stone tools and flaked stone manufacture debris, faunal material, shell fragments and some small pieces of charcoal were encountered in varying amounts. The sediment color corresponding to the levels with cultural material was also slightly darker, but not markedly so like a true midden.

The remaining 12 units (STPs 7 through 18) were dug to only 20/30 cm maximum depth as they were excavated to determine a boundary. Test units 11, 17 and 18 were negative, defining the western, southern, and eastern boundaries of the deposit.

PREHISTORIC PERIOD RESOURCE ML-20-03

In order to determine whether or not a subsurface deposit of artifacts was associated with the sparse surface scatter, a series of STPs were excavated. Stone tools, tool manufacturing debris, bone tools, shell, fire cracked rock, charcoal, and burnt bone fragments were discovered extending down to a depth of at least 60 cm. Some rodent disturbance was observed, but most of the STPs uncovered a mostly intact A/C horizon split at the depth identified for the soil series. After the depth and overall integrity of the cultural deposit was confirmed, the remaining STPs were excavated to determine the extent (size) of the resource. No artifacts were collected.

Twenty-five test units were excavated. Test Units 1 and 2 were excavated in the area with the highest surface concentration of artifacts and were excavated down to a depth of 60 cm below the ground surface. Cultural material, similar to site M-20-02, but in less dense quantities, was found in Test Units 1 and 2 to a depth of roughly 40 cm. The remaining twenty-two test units were only excavated to 20 cm, with the exception of units 3 and 15 that were excavated to a depth of 40 cm. Nine test units were sterile, defining the core area, with all the others containing some chipped stone artifacts and some with faunal material and small amounts of shell as well.

Consultation

Pursuant to both AB 52 and SB 18, the City of Riverbank contacted the following tribes on January 12, 2022: California Valley Miwok Tribe, North Valley Yokuts Tribe, Southern Sierra Miwuk Nation,

Tule River Indian Tribe, and Tuolumne Brand of Me-Wuk Indians. The tribal consultation letters provided the tribes with information regarding the proposed project and invited the tribal organization to consult with the City of Riverbank. To date, one tribe has responded to the tribal consultation letters. On February 11, 2022 Andrea Reich from the Tuolumne Me-Wuk Tribal Council provided a letter indicating that the Tribe has no concerns at this time as the land is considered disturbed. A record of the communication with the Native American Heritage Commission, and all tribal consultation letters sent out by the City is maintained in Appendix C.

Additionally, the Native American Heritage Commission was contacted for a Sacred Lands File search. On February 10, 2022 the NAHC sent a letter to the City of Riverbank indicated that the results were negative.

3.5.2 REGULATORY SETTING

FEDERAL

National Historic Preservation Act

The National Historic Preservation Act was enacted in 1966 as a means to protect cultural resources that are eligible to be listed on the National Register of Historic Places (NRHP). The law sets forth criterion that is used to evaluate the eligibility of cultural resources. The NRHP is composed of districts, sites, buildings, structures, objects, architecture, archaeology, engineering, and culture that are significant to American History.

Virtually any physical evidence of past human activity can be considered a cultural resource. Although not all such resources are considered to be significant and eligible for listing, they often provide the only means of reconstructing the human history of a given site or region, particularly where there is no written history of that area or that period. Consequently, their significance is judged largely in terms of their historical or archaeological interpretive values. Along with research values, cultural resources can be significant, in part, for their aesthetic, educational, cultural and religious values. Neither the City of Riverbank nor regional or state agencies are required to comply with the National Historic Preservation Act, which governs the actions of federal agencies such as the United States Army Corps of Engineers when it engages in wetland permitting.

National Register of Historic Places

The eligibility criteria for the NRHP are as follows (36 CFR 60.4):

> *The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and*
>
> *(A) that are associated with events that have made a significant contribution to the broad patterns of our history and cultural heritage; or*
> *(B) that are associated with the lives of persons significant in our past; or*

(C) that embody the distinctive characteristics of a type, period, region, or method of construction, or that represent the work of a master, or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(D) that have yielded, or may be likely to yield, information important in prehistory or history.

STATE

California Register of Historic Resources

The California Register of Historical Resources (CRHR) was established in 1992 and codified in the Public Resource Code Sections 5020, 5024 and 21085. The law creates several categories of properties that may be eligible for the CRHR. Certain properties are included in the program automatically, including: properties listed in the NRHP; properties eligible for listing in the NRHP; and certain classes of State Historical Landmarks. Determining the CRHR eligibility of historic and prehistoric properties is guided by Section 15064.5(b) of the CEQA Guidelines and Public Resources Code (PRC) Sections 21083.2 and 21084.1.

Historical resources, under CRHR guidelines, are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. A cultural resource may be eligible for listing on the CRHR if it:

a) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
b) is associated with the lives of persons important in our past;
c) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual or possesses high artistic values; or
d) has yielded, or may be likely to yield, information important in prehistory or history.

California Environmental Quality Act

CEQA requires that lead agencies determine whether projects may have a significant effect on three categories of distinct but sometimes overlapping cultural resources: "unique archaeological resources," "historical resources," and "tribal cultural resources." The determination as to whether a particular cultural resource falls under one of these three categories requires the application of statutory criteria set forth in Public Resources Code sections 21083.2[g] (unique archaeological resources), 21084.1 (historical resources), and 21074 (tribal cultural resources), Further guidance regarding the first categories is also found in CEQA Guidelines section 15064.5.

If the agency determines that a project may cause a substantial adverse change in the significance of either an historical resource or a tribal cultural resource, then the project may have a significant environmental effect and an EIR is required for the project. (Pub. Resource Code, §§ 21084.1, 210842.) If a cultural resource is found not to be significant under the qualifying criteria for these three statutory categories of cultural resources, then the cultural resource need not be considered

further in the planning process. Notably, the Legislature has directed that "[a]n [EIR], if otherwise necessary, shall not address the issue of nonunique archaeological resources. A negative declaration shall be issued with respect to a project if, but for the issue of nonunique archaeological resources, the negative declaration would be otherwise issued." (Pub. Resources Code, § 21083.2, subd. (a).)

CEQA emphasizes avoidance of unique archaeological resources and historical resources as the preferred means of reducing potential significant environmental effects resulting from projects. If avoidance is not feasible, an excavation program or some other form of mitigation must be developed to mitigate the impacts. In order to adequately address the level of potential impacts, and thereby design appropriate mitigation measures, the significance and nature of the cultural resources must be determined. The following are steps typically taken to assess and mitigate potential impacts to unique archaeological resources and historical resources for the purposes of CEQA:

- Identify cultural resources,
- Evaluate the significance of the cultural resources found,
- Evaluate the effects of the project on cultural resources, and
- Develop and implement measures to mitigate the effects of the project on cultural resources that would be significantly affected.

HISTORICAL RESOURCES

"Historical resource" is a term with a defined statutory meaning (PRC, Section 21084.1; State CEQA Guidelines, Sections 15064.5[a] and [b]). Under State CEQA Guidelines Section 15064.5(a), historical resources include the following (with qualifications explained below):

1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (PRC, Section 5024.1).

2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be historically significant if the resource meets the criteria for listing in the California

Register of Historical Resources (Public Resources Code, Section 5024.1), including the following:

a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

b) Is associated with the lives of persons important in our past;

c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

d) Has yielded, or may be likely to yield, information important in prehistory or history.

4) The fact that a resource is not listed in or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Section 5020.1(j) or 5024.1.

UNIQUE ARCHAEOLOGICAL RESOURCES

CEQA also requires lead agencies to consider whether projects will impact unique archaeological resources. Public Resources Code Section 21083.2, subdivision (g), states that unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

TRIBAL CULTURAL RESOURCES (AB 52)

CEQA also requires lead agencies to consider whether projects will impact tribal cultural resources. AB 52, approved in September 2014, creates a formal role for California Native American tribes by creating a formal consultation process and establishing that a substantial adverse change to a tribal cultural resource has a significant effect on the environment. Public Resources Code Section 21074 states the following:

a) "Tribal cultural resources" are either of the following:

   1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

      A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

      B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

   2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

AB 52 requires a lead agency, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.

No California Native American tribes have requested consultation with the City of Riverbank pursuant to AB 52.

NATIVE AMERICAN REMAINS

CEQA also provides for the protection of Native American human remains (CCR §15064.5[d]). Native American human remains are also protected under the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001 et seq.), which requires federal agencies and certain recipients of federal funds to document Native American human remains and cultural items within their collections, notify Native American groups of their holdings, and provide an opportunity for repatriation of these materials. This act also requires plans for dealing with potential future

collections of Native American human remains and associated funerary objects, sacred objects, and objects of cultural patrimony that might be uncovered as a result of development projects overseen or funded by the federal government.

Assembly Bill 978

In 2001, Assembly Bill (AB) 978 expanded the reach of Native American Graves Protection and Repatriation Act of 1990 and established a state commission with statutory powers to assure that federal and state laws regarding the repatriation of Native American human remains and items of patrimony are fully complied with. In addition, AB 978 also included non-federally recognized tribes for repatriation.

LOCAL

City of Riverbank General Plan

GOALS: CONSERVATION AND OPEN SPACE ELEMENT

- CONS-1 Maintain Riverbank's Historic Resources.
- CONS-2 Minimize Negative Impacts to Archaeological Resources.

POLICIES: CONSERVATION AND OPEN SPACE ELEMENT

- CONS-1.1 Historically significant buildings shall not be demolished or changed in way that affects their historic value, except to protect public health and safety, or where saving the structure is infeasible.
- CONS-1.2 Buildings and other cultural resources that are not historically significant but have historical or architectural value should be preserved or relocated, wherever feasible. Where this is not feasible, the resource shall be documented and the information retained in a secure, but publicly accessible location. An acknowledgment of the resource should be incorporated in historic signage and the reuse or display of historic materials and artifacts.
- CONS-1.3 The City will promote and encourage adaptive reuse of historic buildings. Consistent with health, safety, and other basic considerations, the City will be flexible in applying building and zoning standards to encourage continued use and adaptive reuse of historic buildings.
- CONS-1.4 The City shall coordinate with local, State, and federal agencies to ensure that historic preservation regulations are implemented.
- CONS-2.1 Approved projects, plans, and subdivision requests shall incorporate all available measures, with a preference for avoidance, to reduce or eliminate impacts to known and unknown archaeological and paleontological resources.
- CONS-2.2 All Native American cultural and archaeological sites shall be protected permanently from urban development, wherever possible.
- CONS-2.3 The City shall restrict the circulation of cultural resource locational information to prevent potential site vandalism.

- CONS-2.4 The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without first consulting with the Central California Information Center of the California Historical Resources Information System (CHRIS) and, if necessary, consulting with a qualified professional archaeologist regarding the significance of the site. Implementation of this policy shall be guided by Section 15064.5 of the State CEQA guidelines.
- CONS-2.5 As guided by State law, in the event of the inadvertent discovery of previously unknown archaeological sites during excavation or construction, all construction affecting the site shall cease and the contractor shall contact the appropriate City agency. If Native American human remains are discovered, the City shall work with local Native American representatives to ensure that the remains and associated artifacts are treated in a respectful and dignified manner.

3.5.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Public Resources Code sections 21084.1, 21084.2, CEQA Guidelines section 15064.5[b], and Appendix G of the CEQA Guidelines, the proposed Project is considered to have a significant impact on cultural resources if it will:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5;
- Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines §15064.5;
- Disturb any human remains, including those interred outside of formal cemeteries; or
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.

The CEQA guidelines use the following definitions to analyze impacts on historical or archaeological resources:

- Substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate

surroundings such that the significance of a historical resource would be materially impaired (§ 15064.5(b)(1)).

- The significance of a historical resource would be materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that convey its historic significance or justify its inclusion in, or eligibility for, the NRHP, CRHR, or local registers (§ 15064.5(b)(2)(A–C)).

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Project implementation has the potential to cause a substantial adverse change to an historical resource as defined in CEQA Guidelines §15064.5, a unique archaeological resource as defined in Public Resources Code section 21083.2, or a tribal cultural resource, as defined in Public Resources Code §21074. (Less than Significant with Mitigation)

The proposed Project would result in physical development within the Specific Plan Area only. The land designated as Reserve that is within the SOI Expansion Area but outside the Specific Plan Area would have no immediate development. The Cultural Resources Assessment included a Records Search and Literature Review of the entire Project Area, but there was limited access for field surveys in some areas due to property rights. The Berghill Boundary and Offsite Sewer Line are part of the Specific Plan Area and were fully accessible for field surveys. As such, the Berghill Boundary and the Offsite Sewer Line received a complete coverage survey. The survey was performed in 2020 by Peak & Associates. The portions of the Specific Plan Area that have not been field surveyed will warrant complete coverage surveys if those property owners seek development entitlements beyond the Specific Plan. Additionally, all areas outside the Specific Plan Area, would warrant complete coverage surveys if those property owners seek development entitlements at some future time.

During the field survey of the Berghill Boundary, three areas containing prehistoric period resources (sites ML-20-02, ML-20-03), and one prehistoric/historic period surface artifact (site ML-20-01) were discovered. Two resources (sites ML-20-04, ML-20-05) were also surveyed to determine whether they are historic. Each resource is discussed in further detail below.

PREHISTORIC/HISTORIC PERIOD SURFACE ARTIFACT ML-20-01

The resource consists of a single-family residence, detached garage, and scatter of prehistoric and historic period artifacts located west of the buildings.

As noted in Section 3.5.2, Regulatory Setting, cultural resources, under CRHR guidelines, are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. A cultural resource may be eligible for listing on the CRHR if it:

a) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

b) is associated with the lives of persons important in our past;
c) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual or possesses high artistic values; or
d) has yielded, or may be likely to yield, information important in prehistory or history.

The residence is not associated with any significant contribution to the broad patterns of California's history and cultural heritage. There is no evidence to suggest that this property was ever associated with a significant person in the historical period. The Cross-Gable Roof subtype of Spanish Revival Style home represents about half of the total built across the United States (McAlester 2013:531). The residence is a typical, but not an elaborate, example of this widely built subtype. The associated archaeological deposit observed during the field inspection and recordation was tested by the excavation of STPs and was found to be disturbed with no remaining integrity.

In conclusion, this residence and associated mixed deposit of prehistoric and historic period cultural materials does not meet the threshold under Criteria A through D of the CRHR and is not a historical resource. Site ML-20-01 does not appear to be an eligible historic property.

PREHISTORIC PERIOD RESOURCES ML-20-02 AND ML-20-03

Both resources are located in agricultural areas and possessed a scatter of prehistoric period artifacts on the surface. The excavation of STPs at the two resources revealed a deposit of chipped stone and bone artifacts, faunal remains, charcoal, fire affected rock, and shell that extended to a depth of at least 60 cm below the ground surface. The two resources look to be seasonally occupied campsites that may have been chosen to exploit not only the adjacent Stanislaus River riparian zone but also a series of natural lakes located about one-half mile northeast of the sites that would have been full of waterfowl during specific seasons of the year.

The area is in an active agricultural field and former orchard that sees annual plowing, discing, and likely some minor grading. Orchard trees were removed from the site a little over a decade ago, meaning that portions of the resource have probably suffered some damage from that activity. The excavation of the STPs indicated that outside of the obvious, ongoing disturbance associated with agricultural operations (upper 20 cm), and some rodent disturbance (to 60 cm), the sediment was essentially intact and appeared to retain a fair degree of overall integrity.

The area possessing a subsurface deposit at sites ML-20-02 and ML-20-03 appears to have the potential to address several important research domains including chronology, settlement pattern, subsistence, and external relationships. The resources appear to have the potential to possess intact cultural features below 20 cm that may possess charcoal that would allow for radiocarbon 14 dating of these features and their associated artifacts. The sediment where the resources are located has been dated to the late Holocene to historic period; as such, the potential for multiple cultural components exists, spanning the last 10,000 years of human use and occupation in the area.

ML-20-02 and ML-20-03 appear to be eligible historic resources under Criterion D, as they have yielded, and are likely to yield, information important in prehistory or history.

RESOURCE ML-20-04

The large barn was constructed sometime between 1950 and 1967. The building is not associated with any significant contribution to the broad patterns of California's history and cultural heritage. There is no evidence to suggest that this property was ever associated with a significant person in the historical period. The barn is a common design. There were no associated archeological deposits observed during the field inspection and recordation and it is unlikely that a buried, undiscovered deposit would be present.

In conclusion, this barn does not meet the threshold under Criteria A through D of the CRHR and is not a historical resource.

RESOURCE ML-20-05

The resource consists of about a one-mile-long section of an unlined irrigation ditch. This section of ditch was constructed sometime between 1950 and 1967. The structure is not associated with any significant contribution to the broad patterns of California's history and cultural heritage. There is no evidence to suggest that this property was ever associated with a significant person in our past. The ditch is a common design. There were no associated archeological deposits observed during the field inspection and recordation and it is unlikely that a buried, undiscovered deposit would be present.

In conclusion, this irrigation feature does not meet the threshold under Criteria A through D of the CRHR and is not a historical resource.

MODESTO IRRIGATION DISTRICT DRAINAGE CANAL SEGMENT

The resource consists of about a 200-foot-long segment of an unlined ditch that is apparently used to drain water. This section of ditch was constructed sometime between 1950 and 1967. The ditch segment is not associated with any significant contribution to the broad patterns of California's history and cultural heritage. There is no evidence to suggest that this property was ever associated with a significant person in the historical period. The ditch is a common design of a utilitarian feature that serves the intended purpose. There were no associated archeological deposits observed during the field inspection and recordation and it is unlikely that a buried, undiscovered deposit would be present.

In conclusion, this irrigation feature does not meet the threshold under Criteria A through D of the CRHR and is not a historical resource.

CONCLUSION

From the preliminary efforts made in the survey and shovel testing, it can be concluded that there are two significant prehistoric period resources within the Berghill Boundary area: ML-20-02 and ML-20-03, that may contain information related to the prehistoric use and occupancy of the sites.

Mitigation Measure 3.5-1 addresses the potential impacts to these two significant prehistoric period resources. They appear to qualify as "historical resources" within the meaning of CEQA, and are treated as such for purposes of mitigation. Although confidentiality laws prevent the City from disclosing the location of these two sites, they can be avoided and preserved. Because Mitigation Measure 3.5-1, set forth below, will require such avoidance and preservation, potential impacts to Resources ML-20-02 and ML-20-03 would be ***less than significant*** with the implementation of mitigation.

As noted previously, the portions of the Specific Plan Area that have not been field surveyed will warrant complete coverage surveys if those property owners seek development entitlements beyond the long-range planning effort provided by the Specific Plan. Additionally, all areas outside the Specific Plan Area, but within the Project Area, will warrant complete coverage surveys if those property owners seek development entitlements beyond the long-range planning effort provided by the proposed SOI Expansion. As such, no development or other physical change would occur in the areas that have not been subject to a survey. Should these areas be planned for development in the future, a separate environmental review would occur to evaluate the physical environmental changes that they propose and the potential impacts to cultural resources (via field surveys, building evaluations, etc., as applicable) would be analyzed. As with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown unique archaeological resources, historical resources of an archaeological nature, or tribal cultural resources. The locations of any such resources are not yet known, however, it is anticipated that if resources are discovered they will be avoided. As such, this would result in a ***less than significant*** impact with the implementation of mitigation.

MITIGATION MEASURE(S)

Mitigation Measure 3.5-1: *Resources ML-20-2 and ML-20-3 shall be avoided and protected in some manner either through design, site capping, and/or inclusion in a park. Protection shall be provided prior to initiation of the construction phase, with long term measures designed for permanent preservation. Consultation shall occur with appropriate Native American groups to ensure the selected measures are acceptable to appropriate groups with ethnic ties to the area.*

Mitigation Measure 3.5-2: *All construction workers shall receive a cultural resources sensitivity training session before they begin site work in order to identify any potentially significant cultural or similar resources that may result during construction. The sensitivity training session shall be instructed by a professional archaeologist, and shall include discussion of the statutory criteria for defining unique archaeological resources, historical resources of an archaeological nature, and tribal cultural resources. The sensitivity training shall inform the workers of their responsibility to identify and protect any cultural resources, including prehistoric or historic artifacts, or other indications of archaeological resources, discovered during construction. The sensitivity training shall cover laws pertaining to cultural resources, examples of cultural resources that may be discovered, and what to do if a cultural resource, or anything that may be a cultural resource, is discovered.*

If any cultural resources, including prehistoric or historic artifacts, or other indications of archaeological resources, are found during grading and construction activities during any phase of the Project, all work shall be halted immediately within a 200-foot radius of the discovery until an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).

The following notifications and measures shall apply to potential unique archaeological resources, potential historical resources of an archaeological nature, and potential tribal cultural resources, depending on the nature of the find:

- *If the professional archaeologist determines that the find clearly does not represent a cultural resource that might qualify as a unique archaeological resource, an historical resource of an archaeological nature, or a tribal cultural resource, work may resume immediately and no agency notifications are required.*

- *If the professional archaeologist determines that the find does represent a cultural resource that might qualify as a unique archaeological resource, an historical resource of an archaeological nature, or a tribal cultural resource, he or she shall immediately notify the City's Community Development Director (CDD) and applicable landowner, and, in the case of a potential tribal cultural resource, a tribal representative from an ethnically appropriate group with Northern Valley Yokuts heritage in order to give such a person an opportunity to participate.*

- *With respect to finds that may qualify as a unique archaeological resource or an historical resource of an archaeological nature (but not a tribal cultural resource), the professional archaeologist and a representative from the City CDD shall consult to determine whether any unique archaeological resources or historical resources of an archaeological nature are present, in part based on a finding of eligibility for inclusion in the NRHP or CRHR. If it is determined that unique archaeological resources or historical resources of an archaeological nature are present, the qualified archaeologist shall develop mitigation or treatment measures for consideration and approval by the City CDD. Mitigation shall be developed and implemented in accordance with Public Resources Code Section 21083.2 and Section 15126.4 of the CEQA Guidelines, with a preference for preservation in place. Consistent with Section 15126.4(b)(3), preservation in place may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If approved by the City CDD, such measures shall be implemented and completed prior to commencing further work for which grading or building permits were issued, unless otherwise directed by the City CDD. Avoidance or preservation of unique archaeological resources or historical resources of an archaeological nature shall not be required where such avoidance or preservation in place would preclude the construction of important structures or infrastructure or require exorbitant expenditures, as determined by the City CDD. Where avoidance or preservation are not appropriate for these reasons, the professional archaeologist, in consultation with the City CDD, shall prepare a detailed recommended a treatment plan for consideration and approval by the City CDD, which may*

include data recovery. If employed, data recovery strategies for unique archaeological resources that do not also qualify as historical resources of an archaeological nature shall follow the applicable requirements and limitations set forth in Public Resources Code Section 21083.2. Data recovery will normally consist of (but would not be limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim of recovering important scientific data contained within the unique archaeological resource or historical resource of an archaeological nature. The data recovery plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and State repositories, libraries, and interested professionals. If data recovery is determined by the City CDD to not be appropriate, then an equally effective treatment shall be proposed and implemented. Work may not resume within the no-work radius until the City CDD, in consultation with the professional archaeologist, determines that the site either: 1) does not contain unique archaeological resources or historical resources of an archaeological nature; or 2) that the preservation and/or treatment measures have been completed to the satisfaction of the City CDD.

- *With respect to finds that may qualify as a tribal cultural resource, the professional archaeologist and a representative from the City CDD shall consult with a tribal representative from an ethnically appropriate group with Northern Valley Yokuts heritage, if one has chosen to participate, to determine whether any tribal cultural resources are present, in part based on the criteria set forth in Public Resources Code section 21074. If it is determined that tribal cultural resources are present, the qualified archaeologist, in consultation with any participating tribal representative, shall develop mitigation or treatment measures for consideration and approval by the City CDD. In doing so, the qualified archaeologist shall give great weight to the wishes of the tribal representative, if one is participating. Mitigation shall be developed with a preference for preservation in place and with reference to the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission. Preservation in place may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If approved by the City CDD, measures involving avoidance and/or preservation in place shall be implemented and completed prior to commencing further work for which grading or building permits were issued, unless otherwise directed by the City CDD. Avoidance or preservation of a tribal cultural resource shall not be required where such avoidance or preservation in place would preclude the construction of important structures or infrastructure or require exorbitant expenditures, as determined by the City CDD. Where avoidance or preservation are not appropriate for these reasons, the professional archaeologist, in consultation with the City CDD and any participating tribal representative, whose input shall be given great weight, shall prepare a detailed recommended a treatment plan for consideration and approval by the City CDD, which may include data recovery. Data recovery may consist of (but would not be limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim of recovering*

important scientific data contained within the unique archaeological resource or historical resource of an archaeological nature. The data recovery plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data to an institution identified by the participating tribal representative, if any, or at an approved facility, and dissemination of reports to local and State repositories, libraries, and interested professionals. If data recovery is determined by the City CDD to not be appropriate, then an equally effective treatment shall be proposed and implemented. Work may not resume within the no-work radius until the City CDD, in consultation with the professional archaeologist, determines that the site either: 1) does not contain tribal cultural resources; or 2) that the preservation and/or treatment measures have been completed to the satisfaction of the City CDD.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation Measure 3.5-1 addresses the potential impacts to Resources ML-20-2 and ML-20-3, which are the only two significant prehistoric period resources known to exist within areas that have been. They appear to qualify as "historical resources" within the meaning of CEQA, and are treated as such for purposes of mitigation. They will be avoided. In light of these factors, implementation of the mitigation measures presented above would ensure that this potential impact is ***less than significant***.

As noted previously, however, the portions of the Specific Plan Area that have not been field surveyed will warrant complete coverage surveys if those property owners seek development entitlements beyond the long-range planning effort provided by the Specific Plan. Additionally, all areas outside the Specific Plan Area, but within the Project Area, will warrant complete coverage surveys if those property owners seek development entitlements beyond the long-range planning effort provided by the proposed SOI Expansion. As such, no development or other physical change would occur in the areas that have not been subject to a survey. Should these areas be planned for development in the future, a separate environmental review would occur to evaluate the physical environmental changes that they propose the potential impacts to cultural resources (via field surveys, building evaluations, etc., as applicable) would be analyzed. Such surveys are likely to identify any unique archaeological resources, historical resources of an archaeological nature, or tribal cultural resources that can be seen with the naked eye, as opposed to lying entirely beneath the surface of the land. As with most projects in the region that involve ground-disturbing activities, however, there is the potential for discovery during construction of a previously unknown or unseen subsurface unique archaeological resources, historical resources of an archaeological nature, or tribal cultural resources.

Mitigation Measure 3.5-2 provides methods by which any such future discovered subsurface resources can be analyzed before they are potentially destroyed. In some circumstances, such resources could be preserved in place, thereby ensuring that there are no substantial adverse changes in the attributes that make those resources qualify as unique archaeological resources, historical resources of an archaeological nature, or tribal cultural resources. As to all such resources, Mitigation Measure 3.5-2 will render any potentially significant effects ***less than significant***.

Impact 3.5-2: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries. (Less than Significant with Mitigation)

Indications suggest that humans have occupied Stanislaus County for over 10,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities, regardless of depth, may yield human remains that may not be interred in marked, formal burials.

Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Additionally, Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that human remains are inadvertently discovered during Project implementation.

While no human remains were found during field surveys of the Berghill Property, and there are no records or literature documenting a previous find in the Project Area, implementation of the following mitigation measure would ensure that all construction activities which inadvertently discover human remains implement state-required consultation methods to determine the disposition and historical significance of any discovered human remains. The following mitigation measure would reduce this impact to a ***less-than-significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.5-3: *If human remains are discovered during the course of construction during any phase of the Project, work shall be halted at the site and at any nearby area reasonably suspected to overlie adjacent human remains until the Stanislaus County Coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are of Native American origin, either of the following steps, subject to statutory time limitations, will be taken:*

- *The Coroner shall contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner shall make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.*
- *The landowner shall retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:*
    - *The Native American Heritage Commission is unable to identify a descendent.*
    - *The descendant identified fails to make a recommendation.*
    - *The City of Riverbank or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*

The purpose of this section is to disclose and analyze the potential impacts associated with the geology of the Project Area and regional vicinity, and to analyze issues such as the potential exposure of people and property to geologic hazards, landform alteration, and erosion. This section is based in part on the following: *City of Riverbank General Plan 2005-2025* (City of Riverbank, 2009), the *City of Riverbank Draft Environmental Impact Report for the 2005-2025 General Plan Update* (City of Riverbank, 2008)*, Riverbank Development Preliminary Engineering Geotechnical Report* (Wallace Kuhl & Associates, March 2020), *Custom Soils Report for Stanislaus County, California* (NRCS, 2016), Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS, 2016), and Interactive Fault Map provided by the U.S. Geological Survey (USGS, 2016).

There were several comments received during the NOP scoping process related to soils, but they were provided in the context of agricultural/farmland soils and are thus addressed in the agricultural chapter of the EIR. There was one comment that related to erosion, which is addressed in this chapter of the EIR.

The proposed Project would connect to the municipal sewer system for wastewater disposal. Septic tanks or septic systems are not proposed as part of the Project. Additionally, there are no significant deposits of mineral resources located in the Project Area, as delineated by the Mineral Resources and Mineral Hazards Mapping Program (MRMHMP). The Project Area is not designated as a Mineral Resource Zone (MRZ). As such, these CEQA topics will not be further discussed.

3.6.1 ENVIRONMENTAL SETTING

GEOLOGIC SETTING

Geomorphic Province

The Project Area is located in the central portion of the Great Valley Geomorphic Province of California. The Great Valley Province is a broad structural trough bounded by the tilted block of the Sierra Nevada on the east and the complexly folded and faulted Coast Ranges on the west. The Stanislaus River bounds the Project Area to the north. This major river drains watersheds from the Sierra Nevada and eastern parts of the Great Valley Province into the San Joaquin River to the west, and San Joaquin Delta to the north, ultimately discharging into the San Francisco Bay to the northwest.

Regional Geology

The Project Area lies in the San Joaquin Valley in central California. The San Joaquin Valley is located in the southern portion of the Great Valley Geomorphic Province. The Great Valley, also known as the Central Valley, is a topographically flat, northwest-trending, structural trough (or basin) about 50 miles wide and 450 miles long. It is bordered by the Tehachapi Mountains on the south, the Klamath Mountains on the north, the Sierra Nevada Mountains on the east, and the Coast Ranges on the west.

The San Joaquin Valley (Valley) is filled with thick Mesozoic to Cenozoic marine and non-marine sedimentary rock sequences that were deposited as much as 130 million years ago. Large alluvial fans have developed on each side of the Valley. The larger and more gently sloping fans are on the east side of the Valley, and overlie metamorphic and igneous basement rocks. These basement rocks are exposed in the Sierra Nevada foothills and consist of meta-sedimentary, volcanic, and granitic rocks.

Local Setting

The current uses in the Project Area are predominantly agricultural operations, including almond and walnut orchards in the eastern/southeastern portion of the Project Area and cherry orchards and fallow land in the western/central portion of the Project Area. The land in the north/northwestern portion of the Project Area contains fallow land and various trees including Eucalyptus and Willow trees. In addition, the land in the northwest corner of the Project Area is the site of a recent large fire. Approximately 31 home sites, 6,756 square feet of commercial uses, and a horse ranch exist within the Project Area. Additionally, an approximately 150-acre solar farm and the Modesto Rifle Club exist in the southwest portion of the Project Area directly northeast of the intersection of Patterson Road and McHenry Avenue, and the Morris Nursery exists in the southeastern corner of the Project Area directly northwest of the intersection of Patterson Road and Rock Creek Road.

The Project Area topography ranges greatly in elevation from approximately 75 to 159 feet above sea level. The high area to the south and west is approximately 100 to 125 feet above mean sea level and acts as a ridge surrounding the lowland areas which are approximately 75 to 80 feet above mean sea level. There is a steep banked slope that separates the high and low areas. Other than the prominent steep sloping banked areas, the majority of the Project Area contains gentle slopes and is generally characterized as flat. Figure 2.0-4 shows the topography of the Project Area.

An agricultural ditch transects the Project Area starting in the southern part of the Berghill property running generally north to northwest generally following the Berghill property boundary. The agricultural ditch is a manmade agricultural drainage facility designed to collect irrigation and agricultural runoff from the low areas of the Project Area.

The Modesto Irrigation District (MID) provides the water supply for the existing agricultural uses and maintains two easements in the Project Area. A MID main canal with a crossing is located approximately 950 feet to the west and approximately 0.45 miles to the east of the intersection of Patterson Road and Coffee Road in the southern portion of the Project Area. The canal enters in the southwest portion of the Project Area and runs to the northeast eventually curving to exit the Project Area in the southeast. A series of private irrigation ditches and pipes distribute the MID water from the on-site canals throughout the Project Area for agricultural use.

Much of the Project Area is active agricultural land. While this land is disturbed from its natural condition, developed agricultural land can provide visual relief to a passerby/viewer from common manmade structures and visual obstructions found in a developed environment. Agricultural lands

provide a sense of openness that is common in natural environments. Throughout the year agricultural operations would result in the land evolving from an environment that appears lush with vegetation (green crops) to an environment that appears barren (recently tilled). According to the Stanislaus County General Plan EIR, agricultural land in the region offers expansive views that extend over the valley floor to the east and Diablo Range to the west. These landscape views are strongly characteristic of the Central Valley and have contributed to the regional identity.

Soils

Holocene-aged Alluvium (Q) underlies the Project Area with the exception to the very eastern portion of the Project Area, which is underlain by the Middle Pleistocene-aged fluvial sediments of the Riverbank Formation (Qr). These sediments each consist primarily of gravels, sands, silts, and interbedded clays. Review of available groundwater information provided by the California Department of Water Resources indicates that regional groundwater beneath the site is present at a depth of 60 to 80 feet below the existing ground surface (Wallace Kuhl & Associates, March 2020).

A Custom Soil Survey was completed for the Project Area using the NRCS Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.6-1. Table 3.6-1 identifies the type and range of soils found in the Project Area.

As shown in Table 3.6-1, the majority of soils within the Planning Area consist of course and fine sands and sandy loams. Below is a brief description of prominent soils within the Project Area.

TABLE 3.6-1: PROJECT AREA SOILS

UNIT SYMBOL	NAME	SPECIFIC PLAN AREA - ACRES	SOI ONLY - ACRES	GRAND TOTAL	CAPABILITY CLASS
132	Columbia Fine Sandy Loam	0.49	0.00	0.49	III-IV
DeA	Delhi loamy sand, 0 to 3 percent slopes	7.50	0.00	7.50	III-IV
DeB	Delhi loamy sand, 3 to 8 percent slopes	1.57	0.00	1.57	III-IV
DhA	Delhi sand, 0 to 3 percent slopes	4.73	2.89	7.62	III-IV
DhB	Delhi sand, 3 to 8 percent slopes	122.23	4.28	126.52	III-IV
FoA	Foster very fine sandy loam, very poorly drained, slightly saline-alkali, 0 to 1 percent slopes	31.45	5.51	36.97	III-IV
GfA	Grangeville fine sandy loam, 0 to 1 percent	155.96	14.22	170.18	II-IV
GmA	Grangeville very fine sandy loam, 0 to 1 percent	253.78	44.33	298.11	II-IV
GnA	Grangeville very fine sandy loam, slightly saline-alkali, 0 to 1 percent slopes	138.03	0.00	138.03	II-IV
GoA	Grangeville very fine sandy loam, moderately saline-alkali, 0 to 1 percent slopes	30.84	0.00	30.84	III-IV
GsA	Greenfield sandy loam 0 to 3 percent slopes	14.57	0.00	14.57	I-IV
GvA	Greenfield sandy loam, deep over hardpan	23.70	5.01	28.72	II-IV

UNIT SYMBOL	NAME	SPECIFIC PLAN AREA - ACRES	SOI ONLY - ACRES	GRAND TOTAL	CAPABILITY CLASS
HbmA	Hanford fine sandy loam, moderately deep over sand, 0 to 3 percent slopes	18.60	0.00	18.60	III-IV
HdA	Hanford sandy loam, 0 to 3 percent	98.65	219.13	317.78	I-IV
HdpA	Hanford sandy loam, moderately deep over silt	0.72	16.42	17.14	II-IV
OaA	Oakdale sandy loam, 0 to 3 percent	0.00	21.97	21.97	I-IV
Rr	Riverwash	23.86	6.20	30.05	0-VIII
TuA	Tujunga loamy sand, 0 to 3 percent slopes	31.74	114.04	145.77	III-VI
TuB	Tujunga loamy sand, 3 to 5 percent slopes	0.70	30.61	31.31	III-VI
TvA	Tujunga sand, 0 to 3 percent slopes	0.00	5.66	5.66	IV-VI
Tx	Terrace escarpments	32.15	33.83	65.97	0-VIII
W	Water	5.92	0.13	6.05	0
	Grand Total	***997.18***	***524.23***	***1,521.41***	

NOTE: EXISTING ROADWAYS ARE EXCLUDED FROM ACREAGE CALCULATIONS

SOURCE: NRCS CUSTOM SOIL SURVEY 2023.

Delhi soil series (i.e., DeA, DeB, DhA, DhB). The Delhi series consists of very deep, somewhat excessively drained soils. Delhi soils are formed in wind modified material weathered from granitic rock sources. Delhi soils are on floodplains, alluvial fans and terraces. Slopes are 0 to 15 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 62 degrees F. They are somewhat excessively drained and negligible to slow runoff, and have a rapid permeability. Common uses for this series include: growing grapes, peaches, truck crops, alfalfa and for homesites. Vegetation on uncultivated areas consists of buckwheat and a few shrubs and trees, as well as annual grasses and forbs.

Foster very fine sandy loam (i.e., FoA). The Foster series is a member of a coarse-loamy mixed, noncalcareous, thermic family of Aquic Haploxerolls. The soils have gray to light gray, sandy loam A horizons which become mottled and calcareous in the lower part; light gray to light olive gray, calcareous C horizons. The soils occur on flood plains and are formed in alluvium from acid igneous rocks. The soils are poorly or very poorly drained with moderate permeability and ponded to very slow runoff; however, many areas have altered drainage because of deep pumping for irrigation. Common uses for this series include: grain, pasture, alfalfa and field and truck crops. Natural vegetation is principally grasses, juncus, sedges, willows and cottonwood.

Grangeville soil series (i.e., GfA, GmA, GnA, GoA). The Grangeville series consists of very deep, somewhat poorly drained soils that formed in moderate coarse textured alluvium dominantly from granitic rock sources. Grangeville soils are on alluvial fans and floodplains and have slopes ranging from 0 to 2 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 63 degrees F. This series is intensively used for growing alfalfa, grapes, cotton,

truck crops and irrigated pasture. Vegetation in uncultivated areas is annual grasses and forbs with native (sodic) alkali-tolerant plants and a few scattered oak and cottonwood trees.

Greenfield soil series (i.e., GsA, GvA). The Greenfield series consists of deep, well drained soils that formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. Greenfield soils are on alluvial fans and terraces and have slopes of 0 to 30 percent. They have low to medium runoff and moderately rapid permeability. Common uses for this series include: production of a wide variety of irrigated field, forage and fruit crops, and growing dryland grain and pasture. Vegetation on uncultivated areas consists of annual grass, forbs, some shrubs and scattered oak trees.

Hanford soil series (i.e., HbmA, HdA, HdpA). The Hanford series consists of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains and alluvial fans and have slopes of 0 to 15 percent. They have negligible to low runoff and moderately rapid permeability. Common uses for this series include: growing a wide range of fruits, vegetables, and general farm crops, urban development, and dairies. Vegetation in uncultivated areas is mainly annual grasses and associated herbaceous plants.

Oakdale sandy loam (i.e., OaA). The Oakdale series consists of very deep, well drained soils that formed in alluvium derived from granitic rock sources. They are on nearly level to gently sloping alluvial fans and terraces and in slightly depressed stream channels traversing alluvial fans with slopes of 0 to 5 percent. They have very slow to slow runoff and moderately rapid permeability. Almost all areas are cultivated and irrigated. Common crops are grapes, almonds, peaches, alfalfa, barley, beans, corn and walnuts.

Tujunga soil series (i.e, TuA, TuB, TvA). The Tujunga series consists of very deep, somewhat excessively drained soils that formed in alluvium from granitic sources. Tujunga soils are on alluvial fans and floodplains, including urban areas. Slopes range from 0 to 12 percent. The mean annual precipitation is about 450 millimeters (mm) and the mean annual temperature is about 18 degrees C. The soil series is somewhat excessively drained and has a negligible to low runoff. They also have a high saturated hydraulic conductivity with a flooding of none to frequent. This soil is used for grazing, citrus, grapes, other fruits, and urban residential or commercial development. Uncultivated areas have a cover of shrubs, annual grasses and forbs, and in urban areas, ornamentals and turf-grass are common.

SOIL HAZARDS

Erosion

Erosion naturally occurs on the surface of the earth as surface materials (i.e. rock, soil, debris, etc.) is loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with

high clay content are generally susceptible only to water erosion. The potential for erosion generally increases as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover.

The *Custom Soils Report* identified the erosion potential for the soils in the Project Area. This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. Soil property data for each map unit component includes the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Within the Project Area, the erosion factor Kf varies from 0.02 to 0.38, which is considered a low to moderate potential for erosion.

Expansive Soils

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wet. If structures are underlain by expansive soils, it is important that foundation systems be capable of tolerating or resisting any potentially damaging soil movements. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering. According to the Riverbank Development Preliminary Engineering Geotechnical Investigation, laboratory testing of a bulk sample consists of representative near-surface soils collected from across the site revealed soils have a low to moderate plasticity when testing in accordance with the American Society of Testing and Materials (ASTM) D4318.

Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. Because the potential for liquefaction is moderate, the potential for lateral spreading is present.

Landslides

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e., cut and fill). As previously mentioned, the Project Area topography ranges greatly in elevation from approximately 75 to 159 feet above sea level. The differing elevations creates some harsh slopes within the Project Area with the majority of slopes between the highland and lowland at 15 to 25 percent with some areas greater than 25 percent; therefore, the potential for a landslide in the Project Area is present.

Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors.

Collapsible soils have not been identified in the Riverbank General Plan as an issue in the Riverbank area. However, in areas subject to potential liquefaction, the potential for liquefaction induced settlement is present.

Subsidence

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils.

Subsidence has not been identified in the Riverbank General Plan as an issue in the Riverbank area.

Soil Corrosion Potential

The California Department of Transportation Corrosion and Structural Concrete Field Investigation Branch 2012, Corrosion Guidelines (Version 2.0), considers a site to be corrosive to foundation elements if one or more of the following conditions exists for the representative soil and/or water samples taken: has a chloride concentration greater than or equal to 500 parts per million (ppm), sulfate concentration greater than or equal to 2000 ppm, or the pH is 5.5 or less.

As part of the *Riverbank Development Preliminary Engineering Geotechnical Investigation*, a sample of near-surface soil was tested to determine pH, chloride and sulfate concentrations, and minimum resistivity to evaluate the potential for corrosive attack upon buried concrete. Based on the chloride concentration criterion, the surface and near-surface soils tested in the northwest corner of the Project Area (TP1) can lead to corrosion of steel reinforcement in concrete and steel structures by breaking down the protective layer of oxides normally present on the steel surface. Additionally, the relatively low resistivity for the sample tested at TP1 also indicates that the surface and near-surface soils at the test site may be moderately to highly corrosive to unprotected metal. Based on the severity of sulfate exposure for the samples, the *Riverbank Development Preliminary Engineering Geotechnical Investigation* designates the Project Area as having an Exposure Class S0 or S1.

Exposure Class S0 is assigned for conditions where the water-soluble sulfate concentration in contact with concrete is low and injurious sulfate attack is not a concern. However, Exposure Class S1 is assigned for conditions where the structural concrete members are in direct contact with soluble sulfates in soil or water; therefore, Project Area soils have the potential to be corrosive to cement.

SEISMIC HAZARDS

Seismic hazards include both rupture (surface and subsurface) along active faults and ground shaking, which can occur over wider areas. Ground shaking, produced by various tectonic phenomena, is the principal source of seismic hazards in areas devoid of active faults. All areas of the state are subject to some level of seismic ground shaking.

Several scales may be used to measure the strength or magnitude of an earthquake. Magnitude scales (ML) measure the energy released by earthquakes. The Richter scale, which represents magnitude at the earthquake epicenter, is an example of an ML. As the Richter scale is logarithmic, each whole number represents a 10-fold increase in magnitude over the preceding number. Table 3.6-2 represents effects that would be commonly associated with Richter Magnitudes.

TABLE 3.6-2: RICHTER MAGNITUDES AND EFFECTS

MAGNITUDE	*EFFECTS*
< 3.5	Typically not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – < 6	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ±60 miles of occupied area
7.0 – 7.9	"Major Earthquake" with the ability to cause damage over larger areas
≥ 8	"Great Earthquake" can cause damage over several hundred miles

SOURCE: USGS, EARTHQUAKE PROGRAM.

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, Stanislaus County is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong. Table 3.6-3 below presents Modified Mercalli intensity effects at each level.

The Significant United States Earthquake data published by the USGS in the National Atlas identifies earthquakes that caused deaths, property damage, and geologic effects or were felt by populations near the epicenter. No significant earthquakes are identified within the Planning Area; however, significant earthquakes are documented in the region. Table 3.6-4 presents the significant earthquakes in the region.

TABLE 3.6-3: MODIFIED MERCALLI INTENSITIES AND EFFECTS

MM	*EFFECTS*
I	Movement is imperceptible
II	Movement may be perceived (by those at rest or in tall buildings)
III	Many feel movement indoors; may not be perceptible outdoors
IV	Most feel movement indoors; Windows, doors, and dishes will rattle
V	Nearly everyone will feel movement; sleeping people may be awakened
VI	Difficulty walking; Many items fall from shelves, pictures fall from walls
VII	Difficulty standing; Vehicle shaking felt by drivers; Some furniture breaks
VIII	Difficulty steering vehicles; Houses may shift on foundations
IX	Well-built buildings suffer considerable damage; ground may crack
X	Most buildings and foundations and some bridges destroyed
XI	Most buildings collapse; Some bridges destroyed; Large cracks in ground
XII	Large scale destruction; Objects can be thrown into the air

SOURCE: USGS GENERAL INTEREST PUBLICATION 1989-288-913.

TABLE 3.6-4: SIGNIFICANT EARTHQUAKES IN THE REGION

MAGNITUDE	*INTENSITY*	*LOCATION*	*YEAR*
5.1	V	Alum Rock (San Jose)	2022
7.1	N/A	Ridgecrest	2019
6.5	N/A	Ferndale Offshore	2016
6.0	VIII	South Napa	2014
5.6	VI	San Jose	2007
5.0	VII	Napa	2000
6.9	IX	Loma Prieta (San Andreas)	1989
5.4	N/A	Santa Cruz County	1989
6.2	N/A	Morgan Hill	1984
5.8	VII	Livermore	1980
5.7	N/A	Coyote Lake	1979
5.7	N/A	Santa Rosa	1969
5.3	N/A	Daly City	1957
5.4	N/A	Concord	1954
6.5	N/A	Calaveras fault	1911
7.9	IX	San Francisco	1906
6.8	N/A	Mendocino	1898
6.2	N/A	Mare Island	1898
6.3	N/A	Calaveras fault	1893
6.2	VIII	Winters	1892
6.4	N/A	Vacaville	1892
6.8	VII	Hayward	1868
6.5	VIII	Santa Cruz Mountains	1865
6.8	N/A	San Francisco Peninsula	1838

SOURCE: UNITED STATE GEOLOGICAL SURVEY, 2020.

The 2015 Uniform California Earthquake Rupture Forecast, Version 3, or UCERF3, is the latest official earthquake rupture forecast (ERF) for the state of California. It provides estimates of the likelihood and severity of potentially damaging earthquake ruptures in the long- and near-term. Combining this with ground motion models produces estimates of the severity of ground shaking that can be expected during a given period (seismic hazard), and of the threat to the built environment (seismic risk). This information is used to inform engineering design and building codes, plan for disaster, and evaluate whether earthquake insurance premiums are sufficient for the prospective losses.

The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters.

FAULTS

A fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. A fault trace is the line on the earth's surface defining the fault. Displacement of the earth's crust along faults releases energy in the form of earthquakes and in some cases in fault creep. Most faults are the result of repeated displacements over a long period of time.

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. Surface ruptures have been known to extend up to 50 miles with displacements of an inch to 20 feet. Fault rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking.

Faults are classified as Historic, Holocene, Late Quaternary, Quaternary, and Pre-Quaternary according to the age of most recent movement. These classifications are described as follows:

- **Historic:** faults on which surface displacement has occurred within the past 200 years;
- **Holocene:** shows evidence of fault displacement within the past 11,000 years, but without historic record;
- **Late Quaternary:** shows evidence of fault displacement within the past 700,000 years, but may be younger due to a lack of overlying deposits that enable more accurate age estimates;
- **Quaternary:** shows evidence of displacement sometime during the past 1.6 million years;
- **Pre-Quaternary:** without recognized displacement during the past 1.6 million years.

Faults are further distinguished as active, potentially active, or inactive:

- **Active:** An active fault is a Historic or Holocene fault that has had surface displacement within the last 11,000 years;

- **Potentially Active:** A potentially active fault is a pre-Holocene Quaternary fault that has evidence of surface displacement between about 1.6 million and 11,000 years ago; and
- **Inactive:** An inactive fault is a pre-Quaternary fault that does not have evidence of surface displacement within the past 1.6 million years. The probability of fault rupture is considered low; however, this classification does not mean that inactive faults cannot, or will not, rupture.

The U.S. Geological Survey identifies potential seismic sources within 16 miles of the Project Area. The closest known faults are the Vernalis fault located near SR 33 approximately 16 miles to the southwest, and the San Joaquin fault, Black Butte fault, and Great Valley thrust fault system located approximately 22 miles to the southwest of the Project Area. The Foothills fault system is located approximately 25 miles to the northeast of the Project Area. Figure 3.6-2 provides a map of known area faults.

Fault Rupture

A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e. earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. The Project Area does not have surface expression of active faults and fault rupture is not anticipated. Figure 3.6-2 shown regional faults in relation to Project Area.

SEISMIC HAZARD ZONES

Alquist-Priolo Fault Zones

An active earthquake fault, per California's Alquist-Priolo Act, is one that has ruptured within the Holocene Epoch (≈11,000 years). Based on this criterion, the California Geological Survey identifies Earthquake Fault Zones. These Earthquake Fault Zones are identified in Special Publication 42 (SP42), which is updated as new fault data become available. The SP42 lists all counties and cities within California that are affected by designated Earthquake Fault Zones. The Fault Zones are delineated on maps within SP42 (Earthquake Fault Zone Maps).

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The California Geologic Survey (CGS) evaluates faults with available geologic and seismologic data and determines if a fault should be zoned as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a Project Area. The Project

Area is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo fault zone, the Ortigalita fault zone, is located approximately 36 miles southwest of the Project Area.

LIQUEFACTION

Liquefaction, which is primarily associated with loose, saturated materials, is most common in areas of sand and silt or on reclaimed lands. Cohesion between the loose materials that comprise the soil may be jeopardized during seismic events and the ground will take on liquid properties. Thus, specific soil characteristics and seismic shaking must exist for liquefaction to be possible. Liquefaction susceptibility based on soil types, deposit, and age is presented below.

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. According to the Riverbank Development Preliminary Engineering Geotechnical Investigation, the potential for liquefication occurring at the site is relatively low based on the known site geologic, seismologic, groundwater and soils conditions. Specifically, the relatively deep depth (greater than 50 feet below the ground surface) of the groundwater below the site indicates the potential for liquefaction is very low (Wallace Kuhl & Associates, March 2020).

EARTHQUAKE-INDUCED LANDSLIDES

Earthquake-Induced Landslide Zones Areas are areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required. The California Geological Survey Landslides Maps have not mapped any landslide areas in the Project Area or its vicinity. The potential for landslide is largely limited to the bluff area.

PALEONTOLOGICAL RESOURCES

The often-unseen records of past life buried in the sediments and rocks below the ground surface are among natural resources deserving conservation and preservation. These records are often under the pavement, buildings, soils, and vegetation that are covered by developed areas, but are also found in undeveloped areas that are either in their natural condition or under agricultural use. These records – fossils and their geologic context – can exist in large quantities below the surface in many areas in Stanislaus County, and span millions of years in age of origin. Fossils constitute a nonrenewable resource, meaning once they are lost or destroyed, the exact information they contained can never be reproduced.

Paleontology is the science that attempts to unravel the meaning of these fossils in terms of the organisms they represent, the ages and geographic distribution of those organisms, how they interacted in ancient ecosystems and responded to past climatic changes, and the changes through time of all of these aspects.

The sensitivity of a given area or body of sediment with respect to paleontological resources is a function of both the potential for the existence of fossils and the predicted significance of any fossils which may be found there. The primary consideration in the determination of paleontological sensitivity of a given area, body of sediment, or rock formation is its potential to include fossils. Information that can contribute to assessment of this potential includes: 1) direct observation of fossils within the project area; 2) the existence of known fossil localities or documented absence of fossils in the same geologic unit (e.g., "Formation" or one of its subunits); 3) descriptive nature of sedimentary deposits (such as size of included particles or clasts, color, and bedding type) in the area of interest compared with those of similar deposits known elsewhere to favor or disfavor inclusion of fossils; and 4) interpretation of sediment details and known geologic history of the sedimentary body of interest in terms of the ancient environments in which they were deposited, followed by assessment of the favorability of those environments for the preservation of fossils.

The most general paleontological information can be obtained from geologic maps, but geologic cross sections (slices of geologic layers to view the third dimension) must be reviewed for an area in question (i.e. if such resources are discovered). These usually accompany geologic maps or technical reports. Once it can be determined which formations may be present in the subsurface, the question of paleontological resources must be addressed. Even though a formation is known to contain fossils, they are not usually distributed uniformly throughout the many square miles the formation may cover. If the fossils were part of a marine environment when they died, perhaps a scattered layer of shells will be preserved over large areas. If on the other hand, a whale died in this bay, you might expect to find fossil whalebone only in one small area of less than a few hundred square feet.

Other resources to be considered in the determination of paleontological potential are regional geologic reports, site records on file with paleontological repositories and site-specific field surveys.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils.

Regional Paleontological Setting

SAN JOAQUIN VALLEY

During the Mesozoic Era (208–65 million years ago [mya]), the Sierra Nevada formed, but the region that would become the San Joaquin Valley lay several thousand feet below the surface of the Pacific Ocean. During the Late Cretaceous Period (75–65 mya), flowering plants, early dinosaurs, and the first birds and mammals appeared. The basic form of the Great Central Valley took shape during the Cenozoic period, first as islands, then as mountains. During the late Cenozoic Era (65–2 mya), the Sierra Nevada eroded to mere hills compared to their earlier appearance, the Coast Ranges rose, and the San Joaquin Valley began to form.

During the Paleocene Epoch (65–53 mya), dinosaurs became extinct and mammals gradually evolved as the dominant group of animal life. During the Eocene Epoch (53–39 mya), the western edges of the San Joaquin Valley rose above sea level. Sedimentation and tectonic uplift of geological formations continued until two million years ago. In the subsequent Oligocene Epoch (39–23 mya), sedimentation continued, and during the Miocene Epoch (23–5 mya) the Diablo Range was uplifted. The Pliocene Epoch (5–2 mya) was a time of tremendous uplift, and great quantities of sediment eroded from the nearby mountain ranges accumulated in the valley, eventually forming a deposit thousands of feet thick. In the Pleistocene Epoch (2 million to 10,000 years ago), the Sierra Nevada range was increasingly elevated and glaciated, resulting in the formation of spectacular features such as Yosemite Valley. During the Holocene Epoch (10,000 years ago to the present), the San Joaquin Valley was above sea level and achieved its present appearance, 466 miles long and 19 to 50 miles wide, enclosed by the Siskiyou, Sierra Nevada, Tehachapi, and Coast Ranges on the north, east, south, and west, respectively. The valley contained fresh water lakes and rivers attractive to herds of prehistoric grazing animals, including Columbian Mammoth, camel, bison, and native horse. The fossil remains of these creatures have been found in San Joaquin County and adjacent areas. The vast majority of paleontological specimens from the San Joaquin valley have been found in rock formations in the foothills of the Diablo Mountain Range. However, remains of extinct animals such as mammoth, could be found virtually anywhere in the valley, especially along watercourses such as the San Joaquin River and its tributaries.

PLANNING AREA

The Geologic Map of California (California Department of Conservation, California Geological Survey), identifies the generalized rock types in the Planning Area as Quaternary Alluvium “Q” which is younger alluvium that consists of marine and nonmarine (continental) sedimentary rocks from the Pleistocene through Holocene Epochs. These rocks are composed of alluvium, lake, playa, and terrace deposits, both unconsolidated and semi-consolidated. This type is mostly nonmarine deposits but does include marine deposits near the coast.

According to a records search of the University of California Museum of Paleontology (UCMP) Collections Data, 765 records of vertebrate fossils have been found and recorded within Stanislaus County. Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data.

3.6.2 REGULATORY SETTING

FEDERAL

Uniform Building Code (UBC)

The purpose of the Uniform Building Code (UBC) is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. UBC standards address foundation design, shear wall strength, and other structurally related conditions.

Clean Water Act (CWA)

The Clean Water Act (CWA), initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating stormwater discharges under the NPDES Program. The NPDES stormwater program regulates stormwater discharges from three potential sources: municipal separate storm sewer systems (MS4s), construction activities, and industrial activities. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit for municipal stormwater (Water Quality Order No. 2013-001-DWQ-DWQ), for construction stormwater (Water Quality Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ), and for industrial stormwater (Water Quality Order No. Order 2014-0057-DWQ amended by Order 2015-0122-DWQ and the 2018 amendments). Each general permit has requirements applicable to that particular activity.

STATE

The State of California has established a variety of regulations and requirements related to seismic safety and structural integrity, including the California Building Code, the Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act.

California Building Standards Code

Title 24 of the California Code of Regulations, known as the CBSC or just "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts including: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CALGreen Code), California Reference Standards Code. Through the CBSC, the state provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls and site demolition. It also regulates grading activities, including drainage and erosion control.

Title 24, Part 2, Chapter 16 of the CBSC addresses structural design, Chapter 17 addresses structural tests and special inspections, and Chapter 18 addresses soils and foundations. CBSC Section 1610

provides structural design standards for foundation walls and retaining walls to ensure resistance to lateral soil loads. CBSC Section 1613 provides structural design standards for earthquake loads. CBSC Section 1704.7 requires special inspections for existing site soil conditions, fill placement and load-bearing requirements during the construction as specified in Table 1704.7 of this section. CBSC Sections 1704.8 through 1704.16 provide inspection and testing requirements for various foundation types, and construction material types. CBSC Section 1803.1.1.1 requires each city and county enact an ordinance which requires a preliminary soil report and that the report be based upon adequate test borings or excavations, of every subdivision, where a tentative and final map is required pursuant to Section 66426 of the Government Code.

CBSC Section 1803.5.3 defines expansive soils and specifies that in areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. CBSC Section 1803.5.4 specifies that a subsurface soil investigation must be performed to determine whether the existing ground-water table is above or within 5 feet (1524 mm) below the elevation of the lowest floor level where such floor is located below the finished ground level adjacent to the foundation. CBSC Section 1803.5.8 provides specific standards where shallow foundations will bear on compacted fill material more than 12 inches (305 mm) in depth. CBSC Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with CBSC Section 1613. CBSC Section 1804 provides standards and requirements for excavation, grading, and fill. CBSC Section 1808, 1809, and 1810 provides standards and requirements for the construction of varying foundations.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and Criteria of the State Mining and Geology Board, which governs the exercise of governments' responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

"Sufficiently Active" and "Well Defined" are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various "seismic hazard zones."

- Cities and Counties, or other local permitting authority, must regulate certain development "projects" within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria, to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

Caltrans Seismic Design Criteria

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components and seismic design practices that collectively make up Caltrans' seismic design methodology.

State Laws Pertaining to Paleontological Resources

Section 5097.5 of the California Public Resources Code prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any "vertebrate paleontological site, including fossilized footprints," on public lands, except where the agency with jurisdiction has granted express permission. "As used in this section, 'public lands' means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof."

Section 30244 of the California Public Resources Code requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

Section 4307–4309 of the California Code of Regulations relating to the Department of Parks and Recreation affords protection to geologic features, "paleontological features", and objects of archaeological, or historical interest or value, and grants the Department of Parks and Recreation the power to grant a permit to "remove, treat, disturb, or destroy plants or animals or geological, historical, archaeological or paleontological materials." (California Code of Regulations, Title 14, Section 4307–4309).

LOCAL

City of Riverbank General Plan

General Plan goals and policies applicable to the Project are identified below:

GOAL: SAFETY ELEMENT

- SAFE-1. Minimize the Loss of Life and Damage to Property Natural and Human-Caused Hazards.

POLICIES: SAFETY ELEMENT

- SAFE-1.1. The City will ensure that approved development projects and public investments are consistent with the information provided in the Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan.
- SAFE-1.2. The City will continue to enforce State of California Building Standards Commission uniform codes, such as the California Building Code and California Fire Code with adopted Fire District amendments.
- SAFE-1.11. Proposed developments located within river bluff areas and other areas prone to geologic and soil limitations require a detailed geotechnical study prepared by an independent qualified geologist approved by the City. Approved plans, projects, and subdivision requests shall incorporate measures to reduce risks identified in the geotechnical study, to the City's satisfaction.
- SAFE-1.12. The City will not allow the location of water wells in areas where subsidence could occur as a result or where existing potential for subsidence could be increase as a result of operation of a domestic water well.

GOAL: CONSERVATION AND OPEN SPACE ELEMENT

- CONS-6. Maintain or Increase Surface and Groundwater Quality and Supply.

POLICIES: CONSERVATION AND OPEN SPACE ELEMENT

- CONS-6.2. The City will coordinate with appropriate regional, state, and federal agencies to address local sources of groundwater and soil contamination, including underground storage tanks, septic tanks, agriculture, and industrial uses.

- CONS-6.7. The City will require mitigation measures, in coordination with the Regional Water Quality Control Board, as a part of approved projects, plans, and subdivisions to address the quality and quantity of urban runoff, including that attributable to soil erosion.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on geology and soils if it will:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction;
    - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property; and/or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The impact analysis below has been written against the backdrop of CEQA case law addressing the scope of analysis required in EIRs for potential impacts resulting from existing environmental hazards found at the site or in the vicinity of a site for a proposed project. In *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, 377, the California Supreme Court held that "agencies subject to CEQA generally are *not* required to analyze the impact of existing environmental conditions on a project's future users or residents." (Italics added.) The court reasoned that "ordinary CEQA analysis is concerned with a project's impact on the environment, rather than with the environment's impact on a project and its users or residents." (*Id*. at p. 378.)

The court did not hold, however, that CEQA never requires consideration of the effects of existing environmental conditions on the future occupants or users of a proposed project. But the circumstances in which such conditions may be considered are narrow: "when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment—and not the environment's impact on the project—that compels an evaluation of how future residents or users could be affected by exacerbated conditions." (*Id*. at pp. 377-378, italics added.)

To help readers understand how to conduct impact analysis in light of these general principles, the court provided an example, which, it said, "may be illuminating. Suppose that an agency wants to locate a project next to the site of a long-abandoned gas station. For years, that station pumped gasoline containing methyl tertiary-butyl ether (MTBE), an additive—now banned by California—that can seep into soil and groundwater. [Citations.] Without any additional development in the area, the MTBE might well remain locked in place, an existing condition whose risks—most notably the contamination of the drinking water supply—are limited to the gas station site and its immediate environs. But by virtue of its proposed location, the project threatens to disperse the settled MTBE and thus exacerbate the existing contamination. The agency would have to evaluate the existing condition—here, the presence of MTBE in the soil—as part of its environmental review. Because this type of inquiry still focuses on the project's impacts on the environment—how a project might worsen existing conditions—directing an agency to evaluate how such worsened conditions could affect a project's future users or residents is entirely consistent with this focus and with CEQA as a whole." (*Id*. at p. 389.)

IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: The proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, strong seismic ground shaking, seismic related ground failure, or landslides (Less than Significant)

The California Geologic Survey (CGS) evaluates faults and determines if a fault should be zoned as active, potentially active, or inactive. All active faults are incorporated into a Special Studies Zone, also referred to as an Alquist-Priolo Special Study Zone. The Project Area is not within an Alquist-Priolo Special Study Zone.

The U.S. Geological Survey identifies potential seismic sources within approximately 16 miles of the Project Area. The closest known faults are the Vernalis fault located near SR 33 approximately 16 miles to the southwest, and the San Joaquin fault, Black Bute fault, and Great Valley thrust fault system located approximately 22 miles to the southwest of the Project Area. The Foothills fault system is located approximately 25 miles to the northeast of the Project Area. Figure 3.6-2 provides a map of known area faults.

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, Stanislaus County is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong. As a result of these factors the California Geological Survey has defined the entire county as a seismic hazard zone. The Uniform Building Code places all of California in the zone of greatest earthquake severity because recent studies indicate high potential for severe ground shaking.

There will always be a potential for ground shaking caused by seismic activity anywhere in California, including the Project Area. Seismic activity could come from a known active fault, or any number of other faults in the region. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. As discussed under Section 3.6.2, Regulatory Setting, the California Building Code, Title 24, Part 2, Chapter 16 addresses structural design and Chapter 18 addresses soils and foundations. Collectively, these state requirements, which have been adopted by the City of Riverbank, include design standards and requirements that are intended to minimize impacts to structures in seismically active areas of California. CBSC Section 1613 specifically provides structural design standards for earthquake loads. CBSC Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with CBSC Section 1613. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level. There is nothing proposed that would exacerbate existing environmental hazards or conditions that already exist. Because all development in the Project Area must be designed in conformance with these state and local standards and policies, any potential impact would be considered ***less than significant***. The proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault, strong seismic ground shaking, or seismic related ground failure.

Impact 3.6-2: Implementation and construction of the proposed Project may result in substantial soil erosion or the loss of topsoil. (Less than Significant with Mitigation)

According to the United States Environmental Protection Agency, polluted stormwater runoff is a leading cause of impairment to the nearly 40 percent of surveyed U.S. water bodies which do not meet water quality standards. Over land or via storm sewer systems, polluted runoff is discharged, often untreated, directly into local water bodies. Soil erosion and the loss of topsoil is one of the most common sources of polluted stormwater runoff during construction activities. When left uncontrolled, storm water runoff can erode soil and cause sedimentation in waterways, which collectively result in the destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

Mandated by Congress under the Clean Water Act, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the National Pollutant Discharge Elimination System (NPDES) permitting mechanism to require the implementation of controls designed to prevent harmful pollutants, including soil erosion, from being washed by stormwater runoff into local water bodies. The construction activities for the proposed Project would be governed by the General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), which states:

> *"…Particular attention must be paid to large, mass graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. These erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded…"*

General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ) further states that:

> *"Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed…Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include: installing berms and other temporary run-on and runoff diversions…All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended…"*

To ensure that construction activities are covered under General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), projects in California must prepare a Stormwater Pollution Prevention Plan (SWPPP) containing Best Management Practices (BMPs) to reduce erosion and sediments to meet water quality standards. Such BMPs may include: temporary erosion control

measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP is reviewed by the Regional Water Quality Control Board as part of the permitting process. The SWPPP, once approved, is kept on site and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the lead agency.

The Custom Soils Report identified the erosion potential for the soils in the Project Area. This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. Soil property data for each map unit component includes the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Within the Project Area, the erosion factor Kf varies from 0.02 to 0.37, which is considered a low to moderate potential for erosion. Furthermore, because the Project Area is essentially flat, the erosion potential is considered slight. Regardless of the potential for erosion, there is always the potential for human-caused erosion associated with construction activities or through the operational phase of a project. Grading, excavation, removal of vegetation cover, and loading activities associated with construction activities temporarily expose soils and increase the potential for soil erosion and sedimentation during rain events. Construction activities can also result in soil compaction and wind erosion effects that can adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

MITIGATION MEASURE(S)

Mitigation Measure 3.6-1: *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation for each phase of the Project, the Project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Riverbank and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.6-1 requires an approved SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. The specific controls are subject to the review and approval by the RWQCB and are existing regulatory requirements.

Overall, BMPS are effective in controlling erosion, sedimentation, runoff during construction activities, and as mentioned above, would be subject to the review and approval by the RWQCB and existing regulatory requirements. Implementation of BMPs would ensure protection for local waterways and stormwater drains and therefore, implementation of Mitigation Measures 3.6-1 would ensure that the proposed Project would have a ***less than significant*** impact relative to this topic. The project would not result in substantial soil erosion or the loss of topsoil

Impact 3.6-3: The proposed Project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of Project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse. (Less than Significant)

LIQUEFACTION

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. Under certain circumstances, the ground shaking can temporarily transform an otherwise solid material to a fluid state. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may subside and suffer major structural damage. Liquefaction is most often triggered by seismic shaking, but it can also be caused by improper grading, landslides, or other factors. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet.

The potential for liquefaction is greater in certain geologic and hydrologic environments that may be characterized by loosely consolidated, silty sediments together with shallow groundwater. In the vicinity of the Project Area, the sediments most susceptible to liquefaction include Holocene (less than 10,000-year-old) delta, river channel, flood plain, and aeolian deposits, and poorly compacted fills. By contrast, dense soils, including well-compacted fills, are less susceptible to liquefaction.

To date, the Seismic Hazards Zonation Program of the CGS has not identified any seismically-induced liquefaction zones in the City of Riverbank or in the Project Area. However, soil data from the NRCS Web Soil Survey (NRCS 2019) suggests that the potential for liquefaction is moderate given that the soils are high in sand and the water table is moderately high.

LATERAL SPREADING

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. Because the potential for liquefaction is moderate, the potential for lateral spreading is present.

LANDSLIDES

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e., cut and fill). As previously mentioned, the Project Area topography ranges greatly in elevation from approximately 75 to 159 feet above sea level. The differing elevations creates some harsh slopes within the Project Area with the majority of slopes between the highland and lowland at 15 to 25 percent with some areas greater than 25 percent; therefore, the potential for a landslide in the Project Area is present.

COLLAPSIBLE SOILS

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Collapsible soils have not been identified in the Riverbank General Plan as an issue in the Project Area. However, in areas subject to potential liquefaction, the potential for liquefaction induced settlement is present.

SUBSIDENCE

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Subsidence has not been identified in the Riverbank General Plan as an issue in the Project Area.

CONCLUSION

The Project Area does not have a significant risk of becoming unstable as a result of landslide, subsidence, or soil collapse. There is some limited to moderate potential for liquefaction, liquefaction induced settlement, landslide, or lateral spreading. There is nothing proposed that would exacerbate existing environmental hazards or conditions that already exist. The California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 requires a final design-level geotechnical evaluation related to expansive soils and other soil conditions. A final design-level geotechnical evaluation addresses structural design, tests and inspections, and soils and foundation standards. Based on the evaluation, design-level recommendations are developed to ensure that there are no threats to the health and safety of people or structures, including threats from liquefaction or lateral spreading. The grading and improvement plans, as well as the storm drainage and building plans for each phase of the Project require design-level geotechnical evaluations. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic. The project site would not become unstable as a result of Project implementation, and would not result in a landslide, lateral spreading, subsidence, liquefaction or collapse

Impact 3.6-4: The proposed Project has the potential to result in development on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property. (Less than Significant)

Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. According to the NRCS Web Soil Survey, the soils in the Project Area have a low shrink-swell potential.

The California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 requires specific geotechnical evaluation when a preliminary geotechnical evaluation determines that expansive or other special soil conditions are present, which, if not corrected, would lead to structural defects. A final geotechnical evaluation in accordance with the standards and requirements outlined in the California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards will be performed by a certified geotechnical engineer, or equivalent. The final geotechnical evaluation would include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans, as well as the storm drainage and building plans, are required to be designed in accordance with the recommendations provided in the final geotechnical evaluation. There is nothing proposed that would exacerbate existing environmental hazards or conditions that already exist. Therefore, the proposed Project would have a ***less than significant*** impact relative to this topic. The project would not create a substantial direct or indirect risk to life or property due to the effects of developing on expansive soil.

Impact 3.6-5: The proposed Project has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Less than Significant with Mitigation)

Paleontological sensitivity is a qualitative assessment based on the paleontological potential of the stratigraphic units present, the local geology and geomorphology, and other factors relevant to fossil

preservation and potential yield. According to the Society of Vertebrate Paleontology (SVP) (2010), standard guidelines for sensitivity are (1) the potential for a geological unit to yield abundant or significant vertebrate fossils or to yield a few significant fossils, large or small, vertebrate, invertebrate, or paleobotanical remains and (2) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecological, or stratigraphic data.

It is also important to recognize that unlike archaeological sites, which are narrowly defined, paleontological sites are defined by the entire extent (both areal and stratigraphic) of a unit or formation. In other words, once a unit is identified as containing vertebrate fossils, or other rare fossils, the entire unit is a paleontological site (Society of Vertebrate Paleontology 2010:2). For this reason, the paleontological sensitivity of geologic units is described and analyzed broadly, rather than being limited to county boundaries.

Although it is not possible to make a determination of the sensitivity for paleontological resources of each geologic unit because of the county's size, most of the geologic units are highly sensitive for paleontological resources, as described in the Stanislaus County General Plan Draft EIR. The University of California Museum of Paleontology (UCMP) database contains 765 records of vertebrate fossils found in the county (University of California Museum of Paleontology 2014a). In addition, most of the valley is immediately underlain by the Modesto and Riverbank Formations of Late Pleistocene (Wagner et al. 1991). These deposits represent sediment eroded from the uplifting Sierra Nevada. California's Pleistocene sedimentary units—especially those that, like the Modesto and Riverbank Formations, record deposition in continental settings—are typically considered highly sensitive for paleontological resources because of the large number of recorded fossil finds in such units throughout the state.

The field surveys have not revealed any surface evidence of paleontological resources. Regardless, it is always possible that undiscovered paleontological resources could be encountered during ground-disturbing activities. Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, state, or federal criteria.

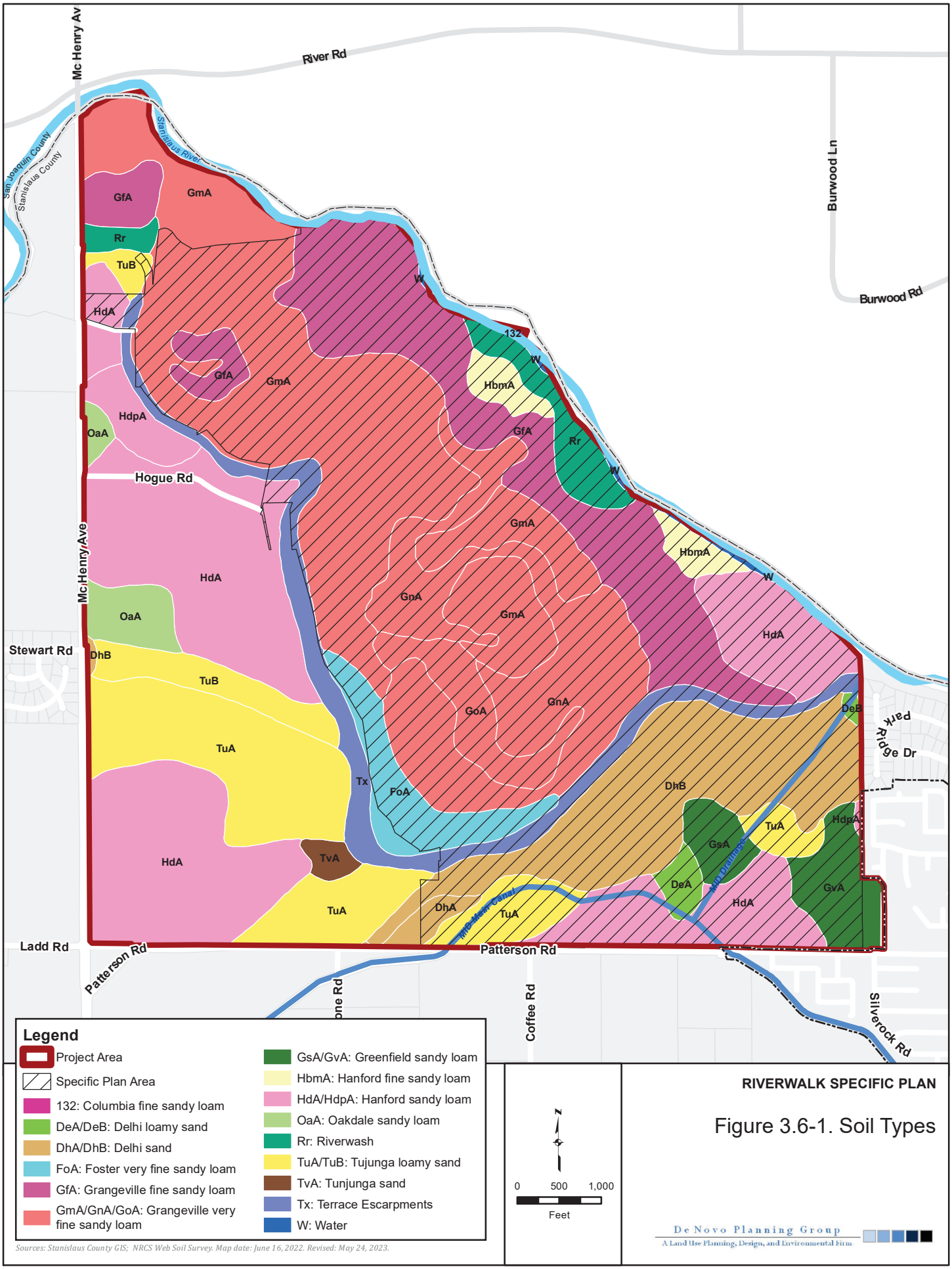
MITIGATION MEASURE(S)

Mitigation Measure 3.6-2: *If subsurface deposits believed to be paleontological in origin are found during grading and construction activities of the Project, work shall be halted immediately within 50 meters (165 feet) of the discovery and the City of Riverbank Community Development Director (CDD) shall be notified. Work shall not continue at the discovery site until a qualified paleontologist evaluates the find to determine whether it includes or constitutes a unique paleontological resource and, if it is, formulates mitigation recommendations for consideration and approval by the City CDD. A unique paleontological resource means a paleontological resource about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one of the two following criteria: (1) contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; or (2) has a special and particular quality such as being the oldest of its type or the best available example of its type. Mitigation options shall include preserving the resource in place or*

recovering data and creating documentation for transmission to the University of California Museum of Paleontology. Avoidance or preservation in place of unique paleontological resources shall not be required where such avoidance or preservation would preclude the construction of important structures or infrastructure or require exorbitant expenditures, as determined by the City CDD.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measure 3.6-2 would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction, including stopping work in the event potential resources are found, evaluation of the resource by a qualified paleontologist and appropriate handling and disposition of any potential resource. To the extent that any unique paleontological resources that might be found cannot be preserved in place, they will be made available for study by experts at the University of California Museum of Paleontology, who will be able to obtain from them any scientific information that they can contribute to ongoing advances in the field of paleontology. This mitigation measure would reduce this impact to a ***less than significant*** level.



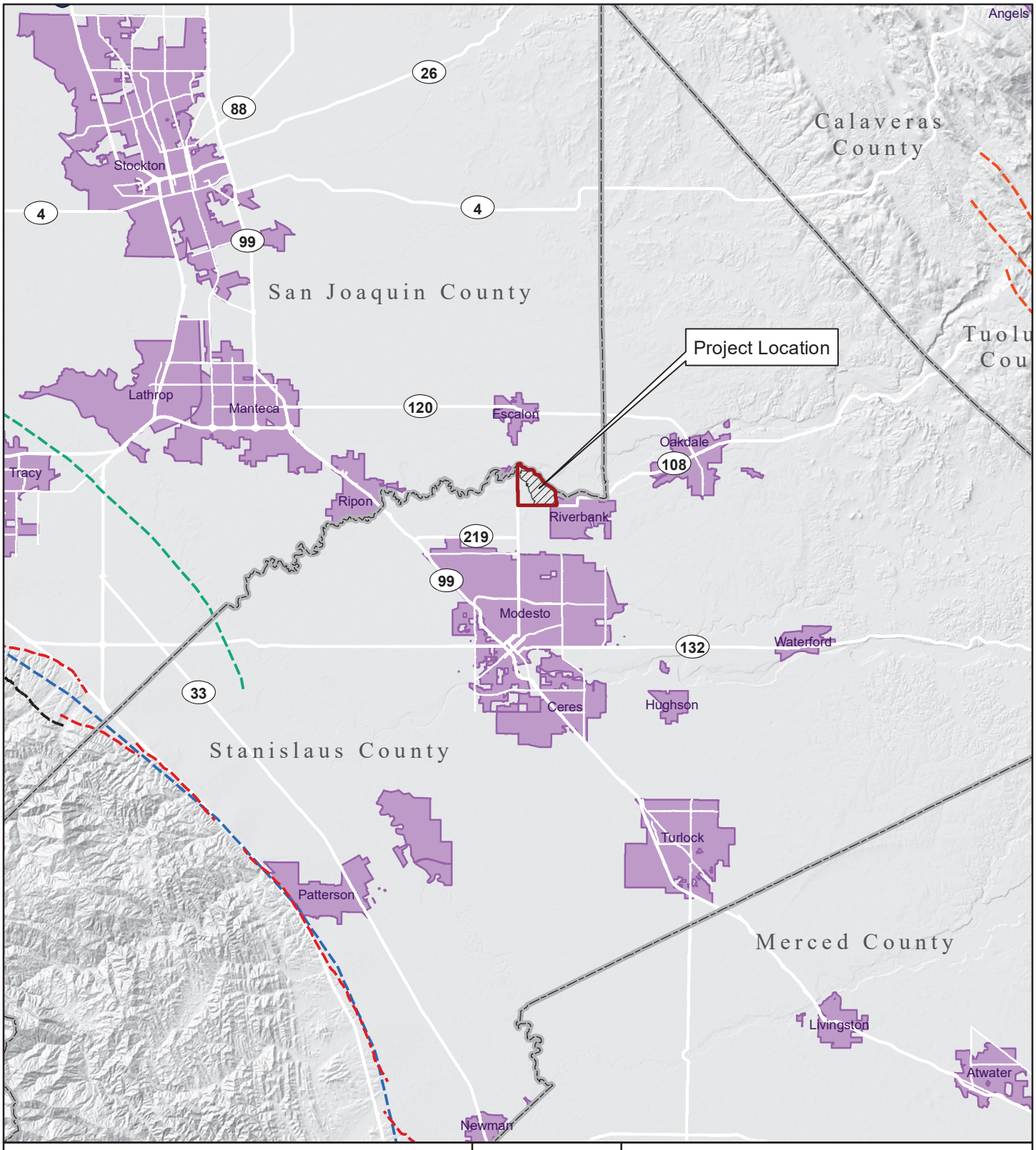
Sources: Stanislaus County GIS; NRCS Web Soil Survey. Map date: June 16, 2022. Revised: May 24, 2023.

RIVERWALK SPECIFIC PLAN

Figure 3.6-1. Soil Types

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Legend

- Project Area
- Specific Plan Area
- Incorporated Area
- County Boundary
- Black Butte fault
- Foothills fault system
- Great Valley thrust fault system
- San Joaquin fault
- Vernalis fault

N

0 2½ 5
Miles

Source: San Joaquin County GIS; USGS; California State GeoPortal. Map date: June 16, 2022.

RIVERWALK SPECIFIC PLAN

Figure 3.6-2. Earthquake Fault Map

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This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy conservation impacts that could result from Project implementation. As discussed in Section 1.0 Introduction, this EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. The program-level analysis considers the broad environmental effects of the proposed project as a whole. However, Section 1.0 also indicates that a component of the proposed Project includes a Specific Plan that provides a very high level of design detail for certain components of the proposed Project. To the extent that sufficient detail is available, a full project-level analysis is provided in this section of the EIR. Because a Greenhouse Gas Emissions analysis is driven by the number of units and square footage of development, the Specific Plan land use design and development projections allow for detailed quantitative analysis to be provided in this analysis. Such an analysis is at a project-level. The areas outside the Specific Plan Area, but within the SOI Expansion Area, lack design details at this time, and will require a specific quantitative analysis when that area undergoes a long-range planning effort by the City and property owners. As such, this analysis is at a program-level for those areas.

This section is based in part on the following technical studies: *Guide for Assessing and Mitigation Air Quality Impacts* (San Joaquin Valley Air Pollution Control District [SJAVPCD], 2002), *Guidance for Assessing and Mitigating Air Quality Impacts - 2015* (SJAVPCD, 2015), and CalEEMod *(v.2022.1)*.

Seven comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from Denny Jackman (June 28, 2021), the San Joaquin Air Pollution Control District (June 30, 2021), the City of Modesto (July 2, 2021), Jean Ferrari (July 4, 2021), Betsy Watson (July 5, 2021), Evelyn Halbert (July 5, 2021), and Soluri Meserve (July 6, 2021). The SJVAPCD commenter pointed out that the SJVAPCD has the *Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI)* (March 19, 2015) as a technical guidance for the review of air quality impacts from proposed projects within the boundaries of the District. Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.7.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs CO_2, CH_4, and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending

about 1750) to 2011, concentrations of these three GHGs (i.e. CO_2, CH_4, and N_2O) have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial and electricity generation sectors (California Energy Commission, 2023).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 369 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2022 (California Air Resources Board, 2023).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2022, accounting for 38% of total GHG emissions in the State. This category was followed by the industrial sector (23%), the electricity generation sector (including both in-state and out of-state sources) (16%), the agriculture and forestry sector (9%), the residential energy consumption sector (8%), and the commercial energy consumption sector (6%) (California Air Resources Board, 2023).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the State. The snowpack portion of the supply could potentially decline by 50% to 75% by the end of the 21st century (National

Resources Defense Council, 2014). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (California Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the Climate Scenarios report (California Environmental Protection Agency, 2010), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and to 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major State fresh water supply. Global warming is also

projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the State (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70% to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to alter the distribution and character of natural vegetation thereby resulting in a possible increased risk of large of wildfires. If temperatures rise into the medium

warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the State. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60% to 80% by the end of the century as a result of increasing temperatures. The productivity of the State's forests is also expected to decrease as a result of global warming.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY CONSUMPTION

Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are the most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 33% of electricity generated from renewable resources by 2020, 60 percent by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under AB 100).

Overall, in 2018, California's per capita energy usage was ranked fourth-lowest in the nation (U.S. EIA, 2020b). California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970's, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

The consumption of non-renewable energy (i.e. fossil fuels) associated with the operation of passenger, public transit, and commercial vehicles, results in GHG emissions that contribute to global climate change. Alternative fuels such as ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. In 2016, more than one-fourth of the electricity

supply comes from facilities outside of the State. Much of the power delivered to California from states in the Pacific Northwest was generated by wind. States in the Southwest delivered power generated at coal-fired power plants, at natural gas-fired power plants, and from nuclear generating stations (U.S. EIA, 2023b). In 2022, approximately 42 percent of California's utility-scale net electricity generation was fueled by natural gas. In addition, about 42 percent of the State's utility-scale net electricity generation came from non-hydroelectric renewable technologies, such as solar, wind, geothermal, and biomass. Another 8 percent of the State's utility-scale net electricity generation came from hydroelectric generation, and nuclear energy powered an additional 88 percent. The amount of electricity generated from coal is negligible (U.S. EIA, 2023a). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed by the State's Renewable Portfolio Standard (RPS).

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (U.S. EIA, 2020b). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010. In 2019, electricity consumption in Stanislaus County was 5,056 GWh (California Energy Commission, 2020).

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2016, world consumption of oil had reached 96 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (U.S. EIA, 2023c). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 96 percent of the State's transportation energy needs.

Natural Gas/Propane

The State produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest (California Energy Commission, 2012). In 2006, California produced 325.6 billion cubic feet of natural gas (California Energy Commission, 2012). In 2018, natural gas consumption in Stanislaus County was 199 million therms (California Energy Commission, 2020).

PG&E is the largest publicly-traded utility in California and provides natural gas for residential, industrial, and agency consumers within the San Joaquin County area. PG&E's natural gas (i.e., methane) delivery system includes 42,000 miles of natural gas distribution pipelines and 6,700 miles of transmission pipelines. PG&E's gas transmission system serves approximately 15 million energy customers in California. The system is operated under an inspection and monitoring program in real time on a 24-hour basis, with leak inspections, surveys, and patrols continuously taking place along the pipelines. Gas delivered by PG&E originates in gas fields in California, the Southwest, the Rocky

Mountains, and Canada. Transmission pipelines send natural gas from the fields and storage facilities. The smaller distribution pipelines deliver gas to individual businesses or residences.

3.7.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, State attainment plans, motor National Ambient Air Quality Standards (NAAQS) vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

On April 2, 2007, in the court case of *Massachusetts et al. vs. the USEPA et al*. (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act (42 USC Sections 7401-7671q). The Supreme Court held that the Administrator of the United States Environmental Protection Agency must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and CARB, the USEPA developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, State, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Federal Climate Change Policy

According to the EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate

Leaders", and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

In 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO_2 per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial GHGs along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

The Inflation Reduction Act of 2022

The Inflation Reduction Act was signed into law by President Biden in August 2022. The bill includes specific investment in energy and climate reform and is projected to reduce GHG emissions within the United States by 40% as compared to 2005 levels by 2030. The bill allocates funds to boost renewable energy infrastructure (e.g., solar panels and wind turbines), includes tax credits for the purchase of electric vehicles, and includes measures that will make homes more energy efficient.

STATE AND REGIONAL

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions all across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as CARB "Scoping Plans" intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

Statutes Setting Statewide GHG Reduction Targets

ASSEMBLY BILL 32 (GLOBAL WARMING SOLUTIONS ACT)

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Health & Safety Code Section 38500 et seq.), also known as Assembly Bill (AB) 32 (Stats. 2006, ch. 488). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction was to be accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directed the California Air Resources Board (CARB) to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

SENATE BILL 32

SB 32 (Stats. 2016, ch. 249) added Section 38566 to the Health and Safety Code. It provides that "[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." In other words, SB 32 requires California, by 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

Between AB 32 (2006) and SB 32 (2016), the Legislature has codified some of the ambitious GHG reduction targets included within certain high-profile Executive Orders issued by the last two Governors. The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Safety Code Section 38501, subd. (i).) That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In 2015, Governor Brown issued Executive Order, B-30-15, which created a "new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050." SB 32 codified this target.

In 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to "achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter." The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals.

Notably, the Legislature has not yet set a 2045 or 2050 target in the manner done for 2020 and 2030 through AB 32 and SB 32, though references to a 2050 target can be found in statutes outside the Health and Safety Code. Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) now states that the California Public Utilities Commission (PUC), in

consultation with CARB and the California Energy Commission (CEC), must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

EXECUTIVE ORDERS S-3-05, B-30-15, AND B-55-18

The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Safety Code Section 38501, subd. (i).) That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

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In 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to "achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter." The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals. As discussed below, the 2022 Scoping Plan lays out a path towards achieving carbon neutrality by 2045.

SB 350

Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) now states that the California Public Utilities Commission (PUC), in consultation with CARB and the California Energy Commission (CEC), must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of

greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

AB 1279

In September 2022, the Legislature enacted AB 1279 (Stats. 2022, ch. 337). The bill declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter. Additionally, the bill requires that by 2045, statewide anthropogenic GHG emissions be reduced to at least 85% below 1990 levels.

Statute Setting Target for the Use of Renewable Energy for the Generation of Electricity

CALIFORNIA RENEWABLES PORTFOLIO STANDARD

In 2002, the Legislature enacted Senate Bill 1078 (Stats. 2002, ch. 516), which established the Renewables Portfolio Standard program, requiring retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. (See Pub. Utilities Code, Section 399.11 et seq. [subsequently amended].) The legislation set a target by which 20 percent of the State's electricity would be generated by renewable sources. (Pub. Utility Code, Section 399.11, subd. (a) [subsequently amended].) As described in the Legislative Counsel's Digest, Senate Bill 1078 required "[e]ach electrical corporation … to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources. If an electrical corporation fails to procure sufficient eligible renewable energy resources in a given year to meet an annual target, the electrical corporation would be required to procure additional eligible renewable resources in subsequent years to compensate for the shortfall, if funds are made available as described. An electrical corporation with at least 20 percent of retail sales procured from eligible renewable energy resources in any year would not be required to increase its procurement in the following year."

In 2006, the Legislature enacted Senate Bill 107 (Stats. 2006, ch. 464), which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. (Pub. Utility Code, Section 399.11, subd (a) [subsequently amended].)

Senate Bill X1-2 (Stats. 2011, 1st Ex. Sess., ch. 1) set even more aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the State's electricity come from renewables by 2020. This legislation applies to all electricity retailers in the State, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities were required to meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. (See Pub. Utility Code, Section 399.11 et seq. [subsequently amended].)

SB 350, discussed above, increased the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. (Pub. Utility Code, Section 399.11, subd (a); see also Section 399.30, subd. (c)(2).) Of equal significance, Senate Bill 350 also embodies a policy encouraging a substantial increase in the use of electric vehicles. As noted earlier, Section 740.12(b) of the Public Utilities Code now states that the PUC, in consultation with CARB and the CEC, must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

Executive Order, B-16-12, issued in 2012, embodied a similar vision of a future in which zero-emission vehicles (ZEV) will play a big part in helping the State meet its GHG reduction targets. Executive Order B-16-12 directed State government to accelerate the market for in California through fleet replacement and electric vehicle infrastructure. The Executive Order set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be "ZEV ready";
- By 2020, the State will have established adequate infrastructure to support 1 million ZEVs in California;
- By 2025, there will be 1.5 million ZEVs on the road in California; and
- By 2050, virtually all personal transportation in the State will be based on ZEVs, and GHG emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

In 2018, Senate Bill 100 (Stats. 2018, ch. 312) revised the above-described deadlines and targets so that the State will have to achieve a 50% renewable resources target by December 31, 2026 (instead of by 2030) and achieve a 60% target by December 31, 2030. The legislation also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all State agencies by December 31, 2045.

In summary, California has set a statutory goal of requiring that, by the 2030, 60 percent of the electricity generated in California should be from renewable sources, with increased generation capacity intended to sufficiently allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other ZEVs. By 2045, all electricity must come from renewable resources and other carbon-free resources. Former Governor Brown had an even more ambitious goal for the State of achieving carbon neutrality as soon as possible and by no later than 2045. The Legislature is thus looking to California drivers to buy electric cars, powered by green energy, to help the State meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon-intensive. A number of statutes in recent years have addressed that strategy. These are discussed immediately below.

Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

ASSEMBLY BILL 1493, PAVLEY CLEAN CARS STANDARDS

In 2002, the Legislature enacted Assembly Bill 1493 ("Pavley Bill") (Stats. 2002, ch. 200), which directed the CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. (See Health and Safety Code Section 43018.5.) In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the "Pavley standards." In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created are what are commonly known as the "Pavley II standards." (See California Code of Regulations, Title 13, Sections 1900, 1961, and 1961.1 et seq.)

In 2012, CARB adopted an Advanced Clean Cars (ACC) program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program, developed in coordination with the USEPA and NHTSA, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years. (See California Code of Regulations, Title 13, Sections 1900, 1961, 1961.1, 1961.2, 1961.3, 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, and 2317 et seq.)

It is expected that the Pavley standards will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

ADVANCED CLEAN CARS II

The Advanced Clean Cars II regulations reduce light-duty passenger car, pickup truck and SUV emissions starting with the 2026 model year through 2035. The regulations are two-pronged. First, it amends the Zero-emission Vehicle Regulation to require an increasing number of zero-emission vehicles, and relies on currently available advanced vehicle technologies, including battery-electric, hydrogen fuel cell electric and plug-in hybrid electric-vehicles, to meet air quality and climate change emissions standards. These amendments support Governor Newsom's 2020 Executive Order N-79-20 that requires all new passenger vehicles sold in California to be zero emissions by 2035. Second,

the Low-emission Vehicle Regulations were amended to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions.

ADVANCED CLEAN TRUCKS

On June 25, 2020, the California Air Resources Board (CARB) adopted the Advanced Clean Trucks (ACT) rule, which requires the sale of zero-emission or near zero-emission HDTs starting with the manufacturer-designated model year 2024. Sales requirements are defined separately for three vehicle groups: Class 2b-3 trucks and vans, Class 4-8 rigid trucks, and Class 7-8 tractor trucks. The regulation is structured as a credit and deficit accounting system. In 2023, the EPA granted the state the waiver it needs to enact the ACT rule. The enacted rule requires truck makers to sell an increasing percentage of electric models annually through 2035. Forty percent of big rigs, half of all cargo and travel vans and 75 percent of box truck and dump truck sales need to be zero emissions by 2035.

ASSEMBLY BILL 2127

AB 2127 (2018) requires the California Energy Commission to biennially assess the electric vehicle charging infrastructure needed to meet the state's goals of putting at least 5 million zero-emission vehicles on California roads by 2030 and reducing greenhouse gas emissions to 40% below 1990 levels by 2030.

ASSEMBLY BILL 2514

AB 2514 (Chapter 469, Statutes of 2010), amended by Assembly Bill 2227 (Chapter 606, Statutes of 2012), was designed to encourage California to incorporate energy storage into the electricity grid, as codified at Public Utilities Code sections 2835-2839 and section 9506. Energy storage can provide a multitude of benefits to California, including supporting the integration of greater amounts of renewable energy into the electric grid, deferring the need for new fossil-fueled power plants and transmission and distribution infrastructure, and reducing dependence on fossil fuel generation to meet peak loads.

Cap and Trade Program

In 2011, CARB adopted the final Cap-and-Trade Program for California (See California Code of Regulations, Title 17, Sections 95801-96022.) The California cap-and-trade program creates a market-based system with an overall emissions limit for affected sectors. The program is intended to regulate more than 85 percent of California's emissions and staggers compliance requirements according to the following schedule: (1) electricity generation and large industrial sources (2012); (2) fuel combustion and transportation (2015).

According to 2012 CARB guidance, "[t]he Cap-and-Trade Program will reduce GHG emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while employing market mechanisms to cost-effectively achieve the emission-reduction goals. The statewide cap for GHG emissions from major sources, which is measured in metric tons of carbon dioxide equivalent (MTCO2e), will commence in 2013 and decline over time, achieving GHG emission reductions

throughout the program's duration. Each covered entity will be required to surrender one permit to emit (the majority of which will be allowances, entities are also allowed to use a limited number of CARB offset credits) for each ton of GHG emissions they emit. Some covered entities will be allocated some allowances and will be able to buy additional allowances at auction, purchase allowances from others, or purchase offset credits."

The guidance goes on to say that "[s]tarting in 2012, major GHG-emitting sources, such as electricity generation (including imports), and large stationary sources (e.g., refineries, cement production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants) that emit more than 25,000 $MTCO_2e$ per year will have to comply with the Cap-and-Trade Program. The program expands in 2015 to include fuel distributors (natural gas and propane fuel providers and transportation fuel providers) to address emissions from transportation fuels, and from combustion of other fossil fuels not directly covered at large sources in the program's initial phase." In early April 2017, the Third District Court of Appeal upheld the lawfulness of the Cap-and-Trade program as a "fee" rather than a "tax." (See *California Chamber of Commerce et al. v. State Air Resources Board et al.* (2017) 10 Cal.App.5th 604.)

AB 398 (Stats. 2017, ch. 135) extended the life of the existing Cap and Trade Program through December 2030.

Statute Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

CALIFORNIA SENATE BILL 375 (SUSTAINABLE COMMUNITIES STRATEGY)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for 2020 and 2035. Each of California's metropolitan planning organizations then prepares a sustainable community strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable community strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable community strategy, then an alternative planning strategy must be developed which demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

Climate Change Scoping Plans

AB 32 SCOPING PLAN

In 2008, CARB adopted its first Climate Change Scoping Plan, which contains the main strategies California would have to implement to achieve reduction of approximately 118 million metric tons (MMT) CO_2e, or approximately 22 percent from the State's projected 2020 emission level of 545 MMT of CO_2e under a business-as-usual scenario. This was a reduction of 47 MMT CO_2e, or almost 10 percent, from 2008 emissions. CARB's original 2020 projection was 596 MMT CO_2e, but this

revised 2020 projection took into account the economic downturn that occurred in 2008. The Scoping Plan also included CARB recommended GHG reductions for each emissions sector of the State GHG inventory. CARB estimated the largest reductions in GHG emissions would be by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (26.1 MMT CO_2e);
- the Low Carbon Fuel Standard (15.0 MMT CO_2e);
- energy efficiency measures in buildings and appliances (11.9 MMT CO_2e); and
- renewable portfolio and electricity standards for electricity production (23.4 MMT CO_2e).

In 2011, CARB adopted a Cap-and-Trade regulation. The Cap-and-Trade program covers major sources of GHG emissions in the State such as refineries, power plants, industrial facilities, and transportation fuels. The Cap-and-Trade program includes an enforceable emissions cap that will decline over time. The State distributes allowances, which are tradable permits, equal to the emissions allowed under the cap. Sources under the cap are required to surrender allowances and offsets equal to their emissions at the end of each compliance period. Enforceable compliance obligations started in 2013. The program applies to facilities that comprise 85 percent of the State's GHG emissions.

With regard to land use planning, the Scoping Plan reflected CARB's expectation that reductions of approximately 3.0 MMT CO_2e would be achieved through implementation of Senate Bill (SB) 375, which is discussed further below.

2014 SCOPING PLAN UPDATE

CARB next revised and reapproved the Scoping Plan and prepared the First Update to the 2008 Scoping Plan in 2014 (2014 Scoping Plan). The 2014 Scoping Plan contained the main strategies California would implement to achieve a reduction of 80 MMT of CO_2e emissions, or approximately 16 percent, from the State's projected 2020 emission level of 507 MMT of CO_2e under the business-as-usual scenario defined in the 2014 Scoping Plan. The 2014 Scoping Plan also included a breakdown of the amount of GHG reductions CARB recommended for each emissions sector of the State's GHG inventory. Several strategies to reduce GHG emissions were included: the Low Carbon Fuel Standard, the Pavley Rule, the ACC program, the Renewable Portfolio Standard, and the Sustainable Communities Strategy.

2017 SB 32 SCOPING PLAN

With the passage of SB 32, the Legislature also passed companion legislation AB 197, which provides additional direction for developing the scoping plan. In response, CARB adopted an updated Scoping Plan in December 2017, which remains operative. The document reflects the 2030 target of reducing statewide GHG emissions by 40 percent below 1990 levels codified by SB 32. The GHG reduction strategies in the plan that CARB will implement to meet the target include:

- SB 350 - achieve 50 percent Renewables Portfolio Standard (RPS) by 2030 and doubling of energy efficiency savings by 2030;

- Low Carbon Fuel Standard - increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020);
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario) - maintain existing GHG standards for light- and heavy-duty vehicles, put 4.2 million zero-emission vehicles on the roads, and increase zero-emission buses, delivery and other trucks;
- Sustainable Freight Action Plan - improve freight system efficiency, maximize use of near-zero emission vehicles and equipment powered by renewable energy, and deploy over 100,000 zero-emission trucks and equipment by 2030;
- Short-Lived Climate Pollutant Reduction Strategy - reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and reduce emissions of black carbon 50 percent below 2013 levels by 2030;
- SB 375 Sustainable Communities Strategies - increased stringency of 2035 targets;
- Post-2020 Cap-and-Trade Program - declining caps, continued linkage with Québec, and linkage to Ontario, Canada;
- 20 percent reduction in GHG emissions from the refinery sector; and
- By 2018, develop an Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

2022 SCOPING PLAN

On December 15, 2022, CARB approved the *Final 2022 Scoping Plan for Achieving Carbon Neutrality*, which outlines the state's plan to reach carbon neutrality by 2045 or earlier, while also assessing the progress the state is making toward reducing GHG emissions by at least 40% below 1990 levels by 2030, as is required by SB 32 and laid out in the Second Update. The carbon neutrality goal requires CARB to expand proposed actions from only the reduction of anthropogenic sources of GHG emissions to also include those that capture and store carbon (e.g., through natural and working lands, or mechanical technologies). The carbon reduction programs build on and accelerate those currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen[1] (CARB 2022b).

The *2022 Scoping Plan* also emphasizes that there is no realistic path to carbon neutrality without carbon removal and sequestration, and to achieve the state's carbon neutrality goal, carbon reduction programs must be supplemented by strategies to remove and sequester carbon. Strategies for carbon removal and sequestration include carbon capture and storage (CCS) from anthropogenic point sources, where CO_2 is captured as it leaves a facility's smokestack and is injected into geologic formations or used in industrial materials (e.g., concrete); and carbon

[1]Green hydrogen refers to hydrogen that is generated by renewable energy or from low-carbon power, and has significantly lower associated carbon emissions than grey hydrogen, which is produced using natural gas and makes up the majority of hydrogen production. For the purposes of the *2022 Scoping Plan*, the term "green hydrogen" is not limited to only electrolytic hydrogen produced from renewables.

dioxide removal (CDR) from ambient air, through mechanical (e.g., direct air capture with sequestration [DACS]) or nature-based (e.g., management of natural and working lands) applications.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and Executive Orders S-3-05 and B-30-15, by which Governors Schwarzenegger and Brown identified long-term GHG reduction goals for the State of California (80 percent below 1990 levels by 2050 and "carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter"). The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions.

SB 605 AND SB 1383

SB 605 (2014) required CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state, and SB 1383 (2016) required CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of short-lived climate pollutants (40% below 2013 levels by 2030 for methane and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy (Reduction Strategy) in March 2017. The Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, methane, and fluorinated gases.

ASSEMBLY BILL 1757

AB 1757 (September 2022) requires the CNRA to determine a range of targets for natural carbon sequestration, and for nature-based climate solutions that reduce GHG emissions for future years 2030, 2038, and 2045. These targets are to be determined by no later than January 1, 2024, and are established to support the state's goals to achieve carbon neutrality and foster climate adaptation and resilience.

Building Code Requirements Intended to Reduce GHG Emissions

CALIFORNIA ENERGY CODE

The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current Building Energy Efficiency Standards, commonly referred to as the "Title 24" standards, include changes from the previous standards that were adopted, to do the following:

- Provide California with an adequate, reasonably priced, and environmentally sound supply of energy.

- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the California Energy Commission's Integrated Energy Policy Report, which finds that standards are the most cost-effective means to achieve energy efficiency, states an expectation that the Building Energy Efficiency Standards will continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Building Energy Efficiency Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of State building codes.
- Meet Executive Order S-20-04, the Green Building Initiative, to improve the energy efficiency of non-residential buildings through aggressive standards.

The most recent Title 24 standards are the 2022 Title 24 standards. Buildings permitted on or after January 1, 2023, must comply with the 2022 Standards. The California Energy Commission updates the standards every three years. The CEC estimates that the 2022 Title 24 standards will reduce 10 million metric tons of GHG over 30 years. When compared to the 2019 Title 24 standards, the 2022 update focuses on: encouraging electric heat pump technology and use; establishing electric-ready requirements when natural gas is installed; expanding solar photovoltaic (PV) system and battery storage standards; and strengthening ventilation standards to improve indoor air quality.

CALIFORNIA GREEN BUILDING STANDARDS CODE

The purpose of the California Green Building Standards Code (California Code of Regulations Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. The original California Green Building Standards, which became effective on January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and State-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- **Tier I:** 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.
- **Tier II:** 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

TITLE 20

CCR Title 20 requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SENATE BILL 1

SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for homes and businesses within 10 years of adoption and placing solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

SOLID WASTE

AB 939, AB 341, and AB 1826. In 1989, AB 939, known as the Integrated Waste Management Act (PRC Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board,

which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by 2000.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops and in August 2015, published a discussion document titled AB 341 Report to the Legislature, which identified five priority strategies that CalRecycle believed would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations, and an evaluation of program effectiveness (CalRecycle, 2012).

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

REGIONAL

PG&E Integrated Resource Plan PG&E adopted the 2020 Integrated Resource Plan (IRP) on September 1, 2020, to provide guidance for serving the electricity and natural gas needs of residents and businesses within its service area while fulfilling regulatory requirements. The IRP contains the following objectives that are relevant to the Project:

- Clean Energy: In 2021, PG&E delivered nearly 50 percent of its electricity from RPS-eligible renewable resources, such as solar, wind, geothermal, biomass, and small hydropower. In addition, PG&E's GHG-free energy production, which encompasses renewable resources, large hydropower, and nuclear, satisfied all of PG&E's bundled retail sales in 2021.

- Reliability: PG&E's IRP analysis includes PG&E's contribution to system and local reliability, in compliance with the CPUC's resource adequacy requirements, especially as California transitions toward higher shares of GHG-free generation resources.

- Affordability: PG&E's IRP analysis selects resources to meet the state's clean energy and reliability goals and provides a system average rate forecast in compliance with the CPUC' s requirements for investor-owned utilities.

Stanislaus Council of Governments' 2022 RTP/SCS

In 2022, the Stanislaus Council of Governments (StanCOG) 2022 RTP/SCS (RTP/SCS) was adopted by the StanCOG Board. StanCOG is required by federal law and state law to prepare and adopt a comprehensive regional transportation plan covering a minimum 20-year planning horizon. This plan must be updated every four years. This 2022 RTP/SCS sets the foundation for transportation investment and land use priorities for years 2022 through 2046.

As the federally designated Metropolitan Planning Organization (MPO) and state designated Regional Transportation Planning Agency (RTPA) for the Stanislaus region, StanCOG has developed the 2022 RTP/SCS update through an integrated and formal planning process, referred to as Valley Vision Stanislaus. This process was executed in collaboration with the nine cities in the Stanislaus region and the County of Stanislaus, through coordination with our local, state, and federal planning partners, and with outreach to the public and other key stakeholders.

The 2022 RTP/SCS is based on a preferred land use and transportation scenario, referred to as "Neighborhood Infill," which defines a pattern of future growth for the region in established neighborhoods to transform them over time to accommodate a more diverse range of housing types as compared to the base scenario "Stay the Course" (the 2018 RTP/SCS).

3.7.3 IMPACTS AND MITIGATION MEASURES

GREENHOUSE GAS EMISSIONS THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed Project would do any of the following:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Approach to Analysis

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the proposed Project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO_2 and other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O), from mobile sources and utility usage.

Climate change is an existing, significant cumulative impact. The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards a significant cumulative impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

For projects, the significance of GHG emissions is evaluated based on a variety of considerations, including quantitative emissions estimates, consistency with a local or regional GHG reduction plan (such as a Climate Action Plan), and consistency with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (such as the State Scoping Plan). More specifically, Section 15064.4(b) of the CEQA Guidelines states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- Consideration #1: The extent to which the Project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting-quantitative considerations.

- Consideration #2: Whether the Project emissions exceed a threshold of significance that the lead agency determines applies to the Project.

- Consideration #3: The extent to which the Project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the Project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the Project. In determining the significance of impacts, the lead agency may consider a Project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the Project's incremental contribution to climate change and its conclusion that the Project's incremental contribution is not cumulatively considerable.

CONSIDERATION #1

To fulfill Consideration #1, a quantitative emissions estimate was prepared for this Project to establish the expected emission levels, which can then be used to determine the extent to which it may increase greenhouse gas emissions from Project construction and operations, and also reduce greenhouse gas emissions from Project design features, best performance standards, and mitigation measures compared to the existing conditions. This quantitative emissions estimate is included under Impact 3.7-1.

CONSIDERATION #2

To fulfill Consideration #2, an analysis was prepared of whether the Project emissions estimates exceed the levels that the lead agency has determined to apply to the Project. Prior to the Newhall Ranch decision, GHG analysis in CEQA documents often involved comparison of the project emissions to a "no action taken" (NAT) or "business as usual" (BAU) scenario. In the Newhall Ranch decision, the court found that, although comparison of a project to BAU may be appropriate in concept, the comparison of a specific local project against a statewide business as usual scenario is not an analogous comparison. Specifically, the Court stated that the business-as-usual approach would need to be based on a substantial evidence-supported link between data in the Scoping Plan and the project, at its proposed location, to demonstrate consistency of a project's reductions with statewide goals. It should be noted that, based on current data available, it is not usually possible, within the structure of the Scoping Plan sectors, to develop the evidence to reliably relate a specific land use development project's reductions to the Scoping Plan's statewide goal, as envisioned by the Court, except for projects specifically covered by the Scoping Plan. Based on the court's finding, the NAT approach can be problematic and is no longer recommended for commercial and residential projects, even though this approach is still presented in the SJVAPCD guidance documents. Therefore, the City of Riverbank has chosen to replace the SJVAPCD NAT threshold, with an alternative approach to addressing this consideration which is aimed at qualitatively analyzing the Project's consistency with regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions, consistent with Consideration #3 of Section 15064.4(b) of the CEQA Guidelines (as provided below).

CONSIDERATION #3

To analyze the Project's consistency with Consideration #3 (to determine the Project's consistency with the State's long-term climate goals or strategies), the analysis prepared for the Project includes an assessment of the Project's consistency with the CARB's 2022 Scoping Plan, Air District requirements, and StanCOG's Sustainable Communities Strategy (SCS). This assessment includes a consistency analysis with regulations or requirements adopted to reduce greenhouse gas emissions, and also evaluates Project-specific GHG emissions and the extent to which they are able to be reduced by effective Project design features and mitigation measures. This assessment is included under Impact 3.7-2.

Conclusion

Based on the discussion above, the following thresholds are applied to this analysis:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Consideration #1 provides useful quantitative estimates of Project emissions. Consideration #2 and Consideration #3 analyzes the Project's consistency with regulations or requirements adopted to

reduce greenhouse gas emissions, addressing Threshold 1 and 2, above. The analysis below includes an evaluation of Project-specific GHG emissions and the extent to which they are able to be reduced by effective Project design features and mitigation measures.

THRESHOLDS OF SIGNIFICANCE (ENERGY CONSERVATION)

Consistent with the CEQA Guidelines, energy-related impacts are considered significant if implementation of the proposed Project would do the following:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation;
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency;

In order to determine whether or not the proposed Project would result in a significant impact on energy use, this EIR includes an analysis of proposed Project energy use, as provided under *Impacts and Mitigation Measures* below.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Project implementation could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (Significant and Unavoidable)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the proposed Project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO_2 and other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O), from mobile sources and utility usage.

The proposed Project's short-term construction-related and long-term operational GHG emissions were estimated using the California Emission Estimator Model (CalEEMod)™ (v.2022.1). CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., MT CO_2e), based on the global warming potential of the individual pollutants.

SHORT-TERM CONSTRUCTION GHG EMISSIONS

Estimated maximum GHG emissions associated with construction of the proposed Project are summarized in Table 3.7-1.[2] These emissions include all worker vehicle, vendor vehicle, hauler vehicle, and off-road construction vehicle GHG emissions. For the purposes of this analysis, based on input from the Project Proponents, the proposed Project is assumed to commence construction in 2025 and finish in 2039. It should be noted that this schedule is an approximation and may change over time. Nevertheless, construction equipment would produce fewer GHG emissions in the future due to the push towards cleaner engines and electric equipment, and as such, assuming a 2025 regulatory environment results in a conservative analysis that overstates impacts. A regularized construction schedule was utilized for modelling purposes for the sake of simplicity.

TABLE 3.7-1: MAXIMUM CONSTRUCTION GHG EMISSIONS (AVERAGE MT CO_2E/YEAR)

YEAR	BIO- CO_2	NON-BIO-CO_2	TOTAL CO_2	CH_4	N_2O	R	CO_2E
2025	0	3,467	3,467	0.1	0.2	3.5	3,546

SOURCES: CALEEMOD (V.2022.1)

As presented in the table, short-term construction emissions of GHGs are estimated at a maximum of approximately 3,546 MT CO_2e per year.

OPERATIONAL GHG EMISSIONS

The operational GHG emissions estimate for the proposed Project includes on-site area, energy, mobile, waste, and water emissions generated by the Project during its operation. Estimated GHG emissions associated with the proposed Project are summarized in Table 3.7-2, below. It should be noted that CalEEMod does not account for the Governor Newsom's Zero-Emission by 2035 Executive Order (N-79-20), which requires that all new cars and passenger trucks sold in California be zero-emission vehicles by 2035. This is anticipated to substantially reduce the operational emissions associated with passenger vehicles (i.e., mobile emissions) over time, including prior the 2035 final implementation year. Therefore, the operational emissions results are likely an overestimate for mobile emissions, assuming the Executive Order is implemented.

Additionally, for the sake of a conservative analysis, the CalEEMod modeling did not account for the VMT-reducing characteristics of Mitigation Measure 3.13-2 (see Section 3.13: Transportation and Circulation), which is anticipated to further reduce GHG emissions for the mobile emissions sector below what is shown in Table 3.7-2, below. Lastly, the CalEEMod modeling did not account for the potential GHG reductions associated with the development of a Neighborhood Electric Vehicle (NEV) system for the active adult villages and community core, as proposed as part of the Specific Plan (see Chapter 2.0: Project Description for further detail); It is anticipated that the NEV system would further reduce GHGs. As shown in the following table, a conservative estimate for the unmitigated

[2] Emissions in Table 3.7-1 account for the required construction-related control measures required by the SJVAPCD, including watering exposed surfaces, watering unpaved construction roads, limiting vehicle speeds on unpaved roads, and sweeping paved roads.

annual GHG emissions associated with the proposed Project would be approximately 34,364 MT CO_2e.

TABLE 3.7-2: UNMITIGATED OPERATIONAL GHG EMISSIONS AT BUILDOUT (METRIC TONS/YEAR)

GHG SECTOR	BIO- CO_2	NON-BIO- CO_2	TOTAL CO_2	CH_4	N_2O	CO_2E
Area	0	43.4	43.4	<0.1	<0.1	43.5
Energy	0	6,381	6,381	0.6	<0.1	6,409
Mobile	0	24,913	24,913	0.5	1.0	25,215
Waste	666	0	666	66.6	0.1	2,331
Water	57.0	114	171	5.9	0.2	359
Total	**723**	**31,451**	**32,175**	**73.5**	**1.1**	**34,364**

SOURCES: CALEEMOD (V. 2022.1)

As noted above, the Project must comply with Title 24. Under the 2022 version of Title 24, the proposed Project must include several design features that would reduce Project operational emissions below those shown in Table 3.7-2, above. For example, the proposed Project use 100% Energy Star appliances and install low-flow and/or high-efficiency water fixtures. Under the state Water Efficient Landscape Ordinance, the Project must install drought-tolerant landscaping.

Table 3.7-3, below, provides the annual emissions associated with the proposed Project after accounting for these Project design features that would further reduce Project emissions, as well as the mitigation included in Mitigation Measure 3.7-1, where quantification was possible.

TABLE 3.7-3: MITIGATED OPERATIONAL GHG EMISSIONS AT BUILDOUT (METRIC TONS/YEAR)

GHG SECTOR	BIO- CO_2	NON-BIO- CO_2	TOTAL CO_2	CH_4	N_2O	CO_2E
Area	0	43.4	43.4	<0.1	<0.1	43.5
Energy	0	6,271	6,271	0.6	<0.1	6,298
Mobile	0	23,319	23,319	0.5	0.9	23,602
Waste	666	0	666	66.6	0.1	2,331
Water	51.8	97.8	150	5.3	0.1	321
Total	**718**	**29,731**	**30,449**	**72.9**	**1.1**	**32,602**

SOURCES: CALEEMOD (V. 2022.1)

As shown in the above tables, the Project with design features (including those required by Title 24) and mitigation measures incorporated (where quantification was possible) would reduce total operational GHG emissions by approximately 1,762 MT CO_2e per year.

Furthermore, it should be noted that continued electrification of the mobile vehicle fleet is anticipated, and may trend toward higher numbers within the fleet as we start to see electric vehicle prices come down significantly from prices seen over the past five to ten years. An increase in the electric vehicle numbers within the fleet would provide GHG reductions beyond what is reflected in this modeling. Further detail is provided under the Project consistency analysis (i.e., the "Consistency with Applicable Plans, Policies, and Regulations" discussion), provided below.

CONCLUSION

To reduce GHG emissions, mitigation strategies have been developed either for the Project as a whole, or for the individual components of the overall Project. Mitigation Measure 3.7-1 provides GHG reduction measures to reduce Project emissions to the maximum extent feasible. However, even with implementation of Mitigation Measures 3.7.1, it cannot be guaranteed that the proposed Project would reduce GHG emissions to full extent needed to ensure that the State GHG reduction targets (such as those under AB 1279) are met.

Mitigation Measure 3.7-1 includes two different categories of measures as described in CalEEMod User Guide. "Quantitative" measure includes those measures that when implemented have a measurable reduction in emissions as reflected in the model outputs, or with separate outside the model calculations. Examples would be the usage of energy efficiency appliances. "Qualitative or Supporting Measures" includes those measures that are not currently quantified by CalEEMod. The CalEEMod User Guide notes that methods for quantifying these measures have not yet been developed, are not fully supported by available research, or require specific details that are difficult to address under a methodology with general applicability. Although not quantitatively evaluated, qualitative or supporting measures may achieve emissions reductions and co-benefits on their own or may enhance the ability of quantified measures to attain expanded reductions and co-benefits. User-selected qualitative or supporting measures are noted in the CalEEMod output report but are not quantified. The quantified measures, in conjunction with Project features discussed above, are anticipated to reduce GHG emissions by at least approximately 1,762 MT CO2e/year. It is anticipated that the Qualitative or Supporting Measures would provide additional, or co-benefits toward reducing GHG emissions.

However, there are no additional, feasible mitigation measures to reduce Project VMT, which is the main contributor to the Project's carbon emissions. Therefore, the impact related to whether the Project generates greenhouse gas emissions either directly or indirectly that may have a significant impact on the environment would remain ***significant and unavoidable***.

MITIGATION MEASURE(S)

Mitigation Measure 3.7-1*:*

a) ***Project-Specific Requirements****. The Project applicants shall be required to reduce Project GHG emissions to the maximum extent feasible by incorporating the following onsite measures:*

   a) *Construction Emissions. Prior to the issuance of grading permits, the Project sponsor or its designee shall provide evidence to the City of Riverbank that the following strategies are implemented:*

      i. *Use electric or hybrid powered equipment for generators and other small pieces of equipment (e.g., forklifts and saws), as commercially available.*

      ii. *Use cleaner-fuel equipment such as replacing diesel fuel with compressed natural gas (CNG) or renewable diesel, as commercially available.*

iii. *Reduce idling time of heavy-duty trucks either by shutting them off when not in use or reducing the time of idling to no more than 3 minutes (5-minute limit is required by the state airborne toxics control measure 13 CCR 2485).*

Commercially available equipment is herein defined as equipment sourced within 50 vehicle miles of the Project site and within 10% of the cost of the diesel-fueled-equivalent equipment. The Project Applicant must contact at least 3 contractors or vendors within Stanislaus County and submit to the City justification if the specified equipment is not commercially available.

b) *Operational Emissions.*

i. *Require Energy Efficient Appliances. Prior to the issuance of building permits, the Project sponsor or its designee shall provide evidence to the City that exclusively ENERGY STAR-certified appliances shall be installed, which exceed the energy efficiency of conventional appliances.*

ii. *Outdoor Electrical Outlets. Prior to the issuance of building permits, the Project sponsor or its designee shall provide evidence to the City of Riverbank that the design plans include electrical outlets in the front and rear of the structure to facilitate use of electrical lawn and garden equipment.*

iii. *Tree Planting. Prior to the applicable certificates of occupancy, the Project sponsor or its designee shall plant, at a minimum, one tree per every new residential dwelling unit proposed. Tree species should be black or valley oak, or another broad leaf species with at least an equivalent carbon sequestration rate. The Project sponsor shall demonstrate that at least 75% of species planted are native to California or drought tolerant and appropriate for the climate zone region. These trees can be planted roadside, in medians, or in other commonly landscaped areas.*

iv. *Water Use Efficiency and Water Conservation. Prior to the issuance of building permits, the Project sponsor or its designee shall provide evidence to the City that the residential building design plans include the following water use efficiency and conservation measures, including:*

- *High-efficiency appliances/fixtures to reduce water use, and/or include water-efficient landscape design*
- *Low-flow or high-efficiency water fixtures*
- *Water-efficient landscapes with lower water demands than required by the California Department of Water Resources (DWR) 2015 Model Water Efficient Landscape Ordinance (MWELO)*
- *Planting of drought-tolerant plant species only*
- *Provide a copy of the educational materials that will be provided to future homeowners and tenants about water saving behaviors and water-conserving landscaping with sales material for City review.*
- *Installation of piping to allow future use of reclaimed water for landscaping purposes in all park areas.*

v. Circulation. The Project sponsor or its designee shall include the following features to reduce VMT:

- *Install sidewalks and crosswalks where appropriate and consistent with City requirements.*
- *Install new or improved bicycle paths and bicycle racks at community destination locations such as parks and community recreation areas.*
- *Sales and rental packets shall include information about local public transit.*

Impact 3.7-2: Project implementation could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Significant and Unavoidable).

CONSISTENCY WITH APPLICABLE PLANS, POLICIES, AND REGULATIONS

The City of Riverbank has not adopted a GHG Reduction Plan. In addition, the City has not completed the GHG inventory, benchmarking, or goal-setting process required to identify a reduction target and take advantage of the streamlining provisions contained in the CEQA Guidelines amendments adopted for SB 97 and clarifications provided in the CEQA Guidelines amendments adopted on December 28, 2018. The San Joaquin Valley Air District has adopted a Climate Action Plan, but it does not contain measures that are applicable to individual projects such as the proposed project. Therefore, the San Joaquin Valley Air District CCAP cannot be applied to the project for purposes of streamlining under CEQA. Since no other local or regional Climate Action Plan is in place, the project is assessed for its consistency with the CARB's adopted 2022 Scoping Plan and the StanCOG's 2022 RTP/SCS, as well as applicable Air District requirements.

Consistency with the CARB's *Final 2022 Scoping Plan for Achieving Carbon Neutrality*: In accordance with AB 32, the CARB developed the first Scoping Plan in 2008 to outline the State's strategy to achieve 1990 level emissions by year 2020. In May 2014, the CARB released and adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals and evaluate the progress that has been made between 2000 and 2012. A newer version of the Scoping Plan was then adopted by the CARB in December 2017 (entitled *California's 2017 Climate Change Scoping Plan*). Lastly, the most recent version of the Scoping Plan was adopted by the CARB in November 2022 (entitled *Final 2022 Scoping Plan for Achieving Carbon Neutrality*), which was designed consistent with the long-term GHG reduction targets embedded in AB 1279. Since adoption of the 2008 Scoping Plan and the subsequent updates in 2014, 2017, and 2022, State agencies have adopted programs identified in the plan, and the Legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations, California Building Standards (e.g., CALGreen and the 2022 Building and Energy Efficiency Standards), zero carbon electricity by 2045, and changes in the corporate average fuel economy standards (e.g., Pavley I and California Advanced Clean Cars)).

The proposed Project's operational emissions would be reduced as regulations are implemented by the CARB and other State agencies to comply with the statewide GHG reduction targets. These

statewide actions are anticipated to reduce operational GHG emissions even further below those identified in Table 3.7-2 and Table 3.7-3. For example, the proposed Project's transportation emissions would be expected to decline as vehicle efficiency standards are implemented beyond the Advanced Clean Cars II program and the Low Carbon Fuel Standard is strengthened. Furthermore, CalEEMod does not account for Governor Newsom's Zero-Emission by 2035 Executive Order (N-79-20) or CARB's subsequent regulations, which requires that all new cars and passenger trucks sold in California be zero-emission vehicles by 2035. This is anticipated to substantially reduce the operational emissions associated with passenger vehicles (i.e., mobile emissions) further, over time. Furthermore, the proposed Project would be required to comply with the latest (i.e., 2022) version of the Title 24 standards, which is more stringent than the 2019 Title 24 standards that are modeled in CalEEMod.[3] Therefore, proposed Project emissions would continue to decline beyond the buildout year due to regulations that would indirectly affect Project emissions. Moreover, the Title 24 standards are anticipated to be revised again in Year 2025[4], with even stricter energy efficiency and renewable energy requirements for new development, which help to ensure that new development is consistent with the State's GHG reduction goals.

The CARB's *Final 2022 Scoping Plan for Achieving Carbon Neutrality* (the latest version of the Scoping Plan) provides policies that are considered needed to meet the State's mid-term and long-term GHG emissions reduction targets. Specifically, the CARB's *Final 2022 Scoping Plan for Achieving Carbon Neutrality* identifies that it "…lays out the sector-by-sector roadmap for California, the world's fifth largest economy, to achieve carbon neutrality by 2045 or earlier…". The Scoping Plan addresses recent legislation and direction from Governor Newsom, by extending and expanding upon the earlier Scoping Plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, and adding carbon neutrality as a science-based guide and touchstone for California's climate work. The Scoping Plan is therefore consistent with the AB 1279 GHG reduction targets of achieving carbon neutrality by 2045, and reducing anthropogenic emissions to 85 percent below 1990 levels by 2045.

Therefore, recognizing the CARB as an authoritative substantial evidence source in evaluating post-2020 GHG impacts, this analysis evaluates whether buildout of the proposed Project would interfere with the main programs the CARB has identified to support its conclusions that the State is on a trajectory to meet the 2045 GHG target.

Appendix D to the CARB's *Final 2022 Scoping Plan for Achieving Carbon Neutrality* provides a table (Table 3) of key residential and mixed-use project attributes that reduce GHGs, which are analyzed in comparison the Project's attributes in Table 3.7-4 below. Specifically, Appendix D of the 2022 Scoping Plan states that:

[3] Since the latest version of CalEEMod (v.2022.1) only accounts for the energy efficiency requirements associated with the 2019 version of Title 24, and since there is no well-established methodology for quantifying the reductions in energy consumption associated with the 2022 version of Title 24 over the 2019 version of Title 24, the CalEEMod modeling does not account for the energy efficiency improvements that would be associated with the 2022 (or future, more stringent) versions of Title 24.

[4] See: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2025-building-energy-efficiency

"These project attributes are intended as a guide to help local jurisdictions qualitatively identify those residential and mixed-use projects that are clearly consistent with the State's climate goals, since these attributes address the largest sources of operational emissions for residential projects. In general, residential and mixed-use development projects that incorporate all of these key project attributes are aligned with the State's priority GHG reduction strategies for local climate action…and with the State's climate and housing goals. As such, they are considered to be consistent with the Scoping Plan or other plans, policies, or regulations adopted for the purposes of reducing GHGs; therefore, the GHG emissions associated with such projects may result in a less-than-significant GHG impact under CEQA. Lead agencies may determine, with adequate additional supporting evidence, that projects that incorporate some, but not all, of the key project attributes are consistent with the State's climate goals."

Table 3.7-4, below, provides an analysis of the Project's consistency with these attributes.

TABLE 3.7-4: PROJECT CONSISTENCY WITH TABLE 3 OF APPENDIX D OF THE 2022 SCOPING PLAN

PRIORITY AREAS	*KEY PROJECT ATTRIBUTE*	*CONSISTENCY ANALYSIS*
Transportation Electrification	Provides EV charging infrastructure that, at minimum, meets the most ambitious voluntary standard in the California Green Building Standards Code at the time of project approval.	Inconsistent. Although the Project would implement EV charging infrastructure as required by Cal Green, the Project is not anticipated to meet the requirements of the California Cal Green Tier 2, which is the most ambitious voluntary standard in Cal Green at this time.
VMT Reduction	Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).	Inconsistent. The Project is located in an undeveloped area designated for development. The Project would connect with surrounding areas via extensive pedestrian and bicycle pathways, as well as via roadways, utilities, and other public services, but is not an infill site.
	Does not result in the loss or conversion of natural and working lands.	Inconsistent. The proposed Project would result in the loss of agricultural land but this loss has been planned under the City's General Plan. Therefore, although the proposed Project would not comply with this measure it is consistent with meeting the City's housing needs.
	Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre), or: Is in proximity to existing transit stops (within a half mile), or: Satisfies more detailed and stringent criteria specified in the region's SCS.	Inconsistent. The majority of the proposed Project would not consist of transit-supportive densities (minimum of 20 residential dwelling units per acre), and is not within a half mile of existing transit stops.
	Reduces parking requirements, by: Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or providing residential parking supply at a ratio of less than one parking space per dwelling unit; or for multifamily residential	Inconsistent. Reducing parking requirements would not reduce VMT in this location, because there is amble, free street parking.

	development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	
	At least 20 percent of units included are affordable to lower-income residents.	Inconsistent. The Project is not anticipated to specifically include development of low-income units but due to its location is more affordable than housing in other, relatively nearby areas.
	Results in no net loss of existing affordable units	Consistent. The Project would not result in the net loss of existing affordable units. As such, the proposed project would comply with this measure.
Building Decarbonization	Uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking.	Inconsistent. Although the 2022 Scoping Plan anticipates that beginning in 2026 residential development would be required to use all electric-appliances only, recent case law from the Ninth Circuit (*California Restaurant Association v. City of Berkeley (9th Cir. 2023) 65 F.4th 1045)*. related to preemption under the Energy Policy and Conservation Act raises doubts about whether the state or any local jurisdiction can ban natural gas connections or natural gas appliances.

SOURCE: THE CARB, 2022 SCOPING PLAN, APPENDIX D, TABLE 3.

As shown in Table 3.7-4, based on proposed Project attributes, many of the key project attributes identified by the CARB cannot be guaranteed to be implemented due to the Project's location in a growing (rather than built out) City. Appendix D notes that for projects that do not meet the criteria shown in Table 3.7-4, they can nevertheless be consistent with the Scoping Plan if they would either be net zero or would comply with an air district threshold addressing SB 32. With the requirement for all electricity supplied by PG&E to be carbon neutral by 2045, the residential units would support the State's goal of carbon neutrality. Nevertheless, due to the uncertainty of the level of electric vehicle penetration, the Project would not necessarily be net zero, even with mitigation, by 2045.

Electrification of the Vehicle Fleet: The proposed Project would benefit from the electrification of the vehicle fleet that would occur by the assumed Project buildout year and over the life of the Project. Based on estimates provided by the CEC, 5 million zero-emission electric vehicles will be needed by 2030 to meet the State's goal of reducing GHG emissions by 40% below 1990 levels, and 8 million zero emission vehicles are anticipated to be needed by 2030 to meet the requirements embedded in Executive Order N-79-20.[5] Such levels of zero-emission electric vehicles would greatly exceed the 4.94% as estimated by EMFAC2021, which suggests that the current projections embedded in EMFAC2021 are likely an underestimate.[6] Nevertheless, it can be reasonably projected that a substantial reduction in GHGs associated with the electrification of the vehicle fleet by Project operational year would occur, beyond what has been modeled within this EIR.

[5] See Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment: Analyzing Charging Needs to Support Zero-Emission Vehicles in 2030. Available at: https://www.energy.ca.gov/publications/2020/assembly-bill-2127-electric-vehicle-charging-infrastructure-assessment-analyzing

[6] According to the San Francisco Chronical, the sale of EVs currently (2023) account for 21 percent of vehicles sold in California. For detail: https://www.sfchronicle.com/projects/2023/ev-tracker-california/.

More Stringent Title 24 Standards: The proposed Project would be required to comply with the latest (i.e., 2022) version of the Title 24 standards, which are more stringent than the 2019 Title 24 standards that are modeled in CalEEMod.[7] Therefore, proposed Project emissions would continue to decline beyond the buildout year due to regulations that would indirectly affect Project emissions. Moreover, the Title 24 standards are anticipated to be revised again in Year 2025, with even stricter energy efficiency and renewable energy requirements for new development, which help to ensure that new development is consistent with the State's GHG reduction goals, consistent with the Scoping Plan.[8] These improvements to the Title 24 standards will be reflected in per capita GHG emission reductions at the Project buildout.

Summary: Over time, as EV penetration increases and transit improves, VMT will be reduced. Here, there is substantial evidence to support a finding that emissions from mobile sources will decrease by 2045, consistent with the Scoping Plan. First, the Project would have EV-ready parking spaces, making it easy for future owners to charge EV vehicles, encouraging the purchase of such vehicles. Second, the state is committed to improving EV infrastructure and the sale of gas-powered vehicles must cease in 2035, suggesting that by 2045 most state residents would own EVs. Therefore, even though the Project is not consistent with all of the local guidance in the Scoping Plan, sufficient evidence exists to conclude that the Project would not impede the State from reaching its climate goals.

Nevertheless, out of an abundance of caution, this EIR concludes that because the Project is inconsistent with several attributes that the CARB suggests projects should include, impacts would be **significant and unavoidable** as related to the Scoping Plan.

Consistency with the StanCOG's 2022 RTP/SCS: The Project's consistency with the applicable 2022 RTP/SCS measures is discussed in Table 3.7-5, below. As shown therein, the Project would be consistent with the GHG emissions reduction strategies contained in the StanCOG's 2022 RTP/SCS, resulting in a **less than significant impact**.

TABLE 3.7-5: CONSISTENCY WITH THE STANCOG 2022 RTP/SCS

RTP/SCS GOALS	*PROJECT CONSISTENCY*
Goal 1: Mobility and Accessibility	**Consistent**. Goal 4 of the proposed Project is to promote health and wellness through extensive pedestrian and bicycle trails, outdoor recreation areas, and opportunities for social interaction. Goal 6 is to achieve a safe and efficient circulation system for all users and modes of transportation. The proposed Project includes a variety of greenways (such as the River Walk Trail, which provides a loop throughout the Plan Area), open space, and parks that would provide bicycle and pedestrian pathways connections within and outside of the Plan Area. The Specific

[7] Since the latest version of CalEEMod (v.2022.1) only accounts for the energy efficiency requirements associated with the 2019 version of Title 24, and since there is no well-established methodology for quantifying the reductions in energy consumption associated with the 2022 version of Title 24 over the 2019 version of Title 24, the CalEEMod modeling does not account for the energy efficiency improvements that would be associated with the 2022 (or future, more stringent) versions of Title 24.

[8] See: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2025-building-energy-efficiency

	Plan also provides a plan to develop a Neighborhood Electric Vehicle (NEV) system for the active adult villages and community core (see Chapter 2.0: Project Description for further detail). Implementation of the proposed Project will provide additional roadways, bicycle lanes, multi-use trails, and pedestrian amenities which link the Plan Area and other nearby developments. The Circulation Plan shows the relationship between existing roads and the future planned roads as identified in the Specific Plan and the City of Riverbank Circulation Element of the General Plan. These connections provide regional and local accessibility between land uses within and adjacent to the Plan Area.
Goal 2: Social Equity	**Consistent**. Goal 1 of the proposed Project is to develop a variety of residential housing products, which include residential housing for a variety of different income and wealth levels. Moreover, Goal 2 of the proposed project is to prioritize age-restricted development, to provide more affordable housing for seniors. Furthermore, Goal 6 is to achieve a safe and efficient circulation system for all users and modes of transportation, thereby allowing pedestrians and cyclists (i.e., non-vehicles users) to access the Project site equitably.
Goal 3: Economic and Community Vitality	**Consistent**. The proposed project provides housing for the county and state which is, in part, a response to, and is driven by, strong policy direction from the Legislature, which has declared that "California has a housing supply and affordability crisis of historic proportions. The proposed Project includes the development of housing that would play a part of reducing this housing crisis. The development of new housing would support economic activity. Moreover, the proposed Project includes commercial and other employment-generating uses that would enhance economic opportunity for nearby residents. Additionally, it should be noted that Goal 3 is to develop a community core area that serves as a central community gathering place for social interaction, recreation, retail, services, and living space. This proposed Project goal directly supports this RTP/SCS goal.
Goal 4: Sustainable Development Pattern	**Consistent**. Goal 5 of the proposed Project is to Respect the natural resources (i.e., Stanislaus River), terrain, and character of land by designing a residential community that highlights the scenic views of the Plan Area. Goal 5 of the proposed Project directly supports the sustainability of the Project site and its surrounding environs, thereby supporting this RTP/SCS goal. Moreover, Goal 4 of the proposed Project site is to Promote health and wellness through extensive pedestrian and bicycle trails, outdoor recreation areas, and opportunities for social interaction, thereby also supporting this RTP/SCS goal. Additionally, Specific Plan Policy CIRC-3.1 The City will coordinate planning efforts and project entitlements with the Riverbank Oakdale Transit Agency, the Stanislaus Area Regional Transit District (START), and any future providers serving Riverbank to enhance and expand transit services throughout the City and surrounding region. Policy CIRC-3.3 requires that approved plans, projects, and subdivision requests will accommodate transit facilities consistent with transit agency planning. The Specific Plan also provides a plan to develop a Neighborhood Electric Vehicle (NEV) system for the active adult villages and community core (see Chapter 2.0: Project Description for further detail).
Goal 5: Environmental Quality	**Consistent**. The Specific Plan contains objectives for the purposes of satisfying CEQA Guidelines section 15124[b]. As provided in Chapter 2.0: Project Description of this EIR, Goal 4 of the proposed Project is to promote health and wellness through extensive pedestrian and bicycle trails, outdoor recreation areas, and opportunities for social interaction. Additionally, Goal 5 of the proposed Project is to respect the natural resources (i.e., Stanislaus River), terrain, and character of land by designing a residential community that highlights the scenic views of the Plan Area. Overall, the proposed Project is designed with mixed use development, which would

	reduce VMT compared by placing differing land uses in close proximity to each other, and would conserve energy by developing residential and non-residential uses that adhere to the latest State standards, such as Title 24. More detail on what the proposed Project would do to reduce energy consumption is provided under Impact 3.7-2, below.
Goal 6: Safety and Health	**Consistent**. The proposed Project implements a network of roadways, NEV lanes, bicycle lanes, trails, and sidewalks which will provide convenient and safe access to all villages within the Plan Area. The final alignments, footprints, and exact locations of the streets are subject to change and refinement as development inside and outside of the Plan Area proceeds. The final alignments and configurations will be determined at the improvement plan level in order to provide for operational safety and integration with the existing and planned traffic network. The final designation of NEV lanes as Class II or III within the roadway network will also be determined at the improvement plan phase. The circulation network's exact locations and alignments will be determined through collaboration between builders and City Staff during the development review process. In addition, the Plan Area would include roadways that include sidewalks and bicycle pathways that are designed to increase pedestrian and cycling safety, utilizing the latest applicable standards. Additionally, since the proposed Project includes a variety of greenways (such as the River Walk Trail, which provides a loop throughout the Plan Area), open space, and parks that would provide bicycle and pedestrian pathways connections within and outside of the Plan Area, the proposed Project improves the quality of life for residents. Moreover, the proposed Project includes a variety of mixed uses, which provide access to a variety of land uses within walking and cycling distance. Furthermore, Goal 3 of the proposed Project is to develop a community core area that serves as a central community gathering place for social interaction, recreation, retail, services, and living space, which would also enhance quality of life for residents. Goal 7 of the Specific Plan also calls for the proposed Project to highlight village identity while promoting community amenities. These proposed Project goals serve to enhance the health of the proposed Project residents.
Goal 7: System Preservation	**Consistent**. The proposed Project implements a network of roadways, NEV lanes, bicycle lanes, trails, and sidewalks that will connect to the existing transportation system surrounding the Plan Area. It should also be noted that, prior to development of the proposed Project, Stanislaus County is widening McHenry Road, which would help with circulation along the western portion of the proposed Project. Moreover, Goal 6 of the Specific Plan is to achieve a safe and efficient circulation system for all users and modes of transportation. Overall, the proposed Project provides development consistent with local, regional, and State requirements that are designed to preserve the efficiency of the existing transportation system.
Goal 8: Smart Infrastructure	**Consistent**. The proposed Project is designed in such a way as to promote smart infrastructure. In particular, Goal 4 is to promote health and wellness through extensive pedestrian and bicycle trails, outdoor recreation areas, and opportunities for social interaction. Further, Goal 3 would develop a community core area that serves as a central community gathering place for social interaction, recreation, retail, services, and living space. These proposed Project goals support this RTP/SCS goal of smart infrastructure.
Goal 9: Resiliency and Reliability	**Consistent**. The proposed Project includes Goal 1, which would develop a mix of residential housing products to accommodate a variety of desires in the market, which makes the proposed Project more economically resilient than it would be if its housing options were less diverse. Further, the proposed Project includes a variety of mixed uses, which also increases the proposed Project's resiliency to a variety of market challenges. Lastly, Goal 5 requires the project to respect the natural resources, terrain, and character of the land, thereby making the area more sustainability, resilient, and reliable, over the long term.

Goal 10: Congestion Management	**Consistent**. The proposed Project includes Goal 6, which requires the proposed Project to achieve a safe and efficient circulation system for all users and modes of transportation. Implementation of the proposed Project will provide additional roadways, bicycle lanes, multi-use trails, and pedestrian amenities which link the Plan Area and other nearby developments. The Circulation Plan shows the relationship between existing roads and the future planned roads as identified in the Specific Plan and the City of Riverbank Circulation Element of the General Plan. These connections provide regional and local accessibility between land uses within and adjacent to the Plan Area. This ensures that potential traffic congestion within and nearby to the proposed Project is managed effectively. The Specific Plan also provides a plan to develop a Neighborhood Electric Vehicle (NEV) system for the active adult villages and community core (see Chapter 2.0: Project Description for further detail).

SOURCE: STANISLAUS COUNCIL OF GOVERNMENTS, CALIFORNIA. 2022. ADOPTED AUGUST 17, 2022. RTP/SCS. WEBSITE: HTTPS://STANCOG.ORG/187/REGIONAL-TRANSPORTATION-PLAN-RTP#TAB9E41856D-C05F-4597-A577-CF56280BE16C_0. ACCESSED APRIL 27, 2023.

Consistency with the SJVAPCD Requirements: The proposed Project would be required to comply with all applicable SJVAPCD (i.e., Air District) Rules and regulations. For example, Regulations and rules that may apply to the proposed Project could include Regulation VIII provides fugitive PM_{10} dust prohibitions; Rule 8021 provides rules for PM_{10} dust prohibition associated with construction, demolition activities, excavation, extraction, and other earthmoving activities; Rule 4601 provides rules to limit VOC emissions for architectural coatings. Moreover, the proposed Project would be required to comply with SJVAPCD Rule 9510, as described in further detail below. In sum, the proposed Project would comply with all applicable SJVAPCD Rules and regulations and as to such rules and regulations, impacts are **less than significant**.

SJVAPCD's Rule 9510: In accordance with the SJVAPCD's Rule 9510, an Air Impact Assessment (AIA) is required to be prepared for the proposed Project based on the applicability and exemption criteria of the rule.[9] The rule includes general mitigation requirements for construction and/or operational emissions. Per the general mitigation requirements of Rule 9510, the Project would be required to reduce the Project's operational baseline NOx emissions 33.3%, and the Project's operational baseline PM_{10} emissions 50%, over a period of ten years as quantified in the approved AIA. Although the purpose of Rule 9510 is to reduce NOx and PM_{10} emissions, rather than GHG emissions, it should be noted that these reductions are enforced through on- and off-site measures, many of which would also reduce GHG emissions. For example, according to the SJVAPCD's most recent Indirect Source Review Program annual report (*the Indirect Source Review Program 2022 Annual Report, July 1, 2021 to June 30, 2022*), during the reporting period (July 1, 2021 through June 30, 2022), the District spent ISR monies to fund clean-air emission reduction projects, including off-site projects such as the replacement of older, higher-emitting agricultural tractors with new latest-tier tractors, replacement of older, higher-emitting agricultural irrigation water pump engines with electric motors, retrofitting of residential open-hearth fireplaces with certified natural gas burning inserts, and a dairy feed mixer electrification project. Total off-site emission reductions alone for the

[9] Available at: https://www.valleyair.org/rules/currntrules/r9510-a.pdf. Accessed: September 2022.

reporting period totaled 50 tons of NOx and 86 tons of PM_{10}, for a paid-out total of $3,458,048, and a cost effectiveness of $25,438/ton.[10]

These off-site emission reductions have the ancillary benefit of reducing GHG emissions, beyond what has been modeled herein. For example, the reduction in carbon intensity of natural gas burning inserts compared with open-hearth fireplaces is improved by 39.7%, according to data from Appendix G of the latest version of the CalEEMod v2022.1 Guidebook.[11] Separately, as another example, for off-site mitigation that would occur due to the replacement of older, higher-emitting agricultural tractors with new latest-tier tractors, the greenhouse gas intensity of the new latest-tier tractors compared to older, higher-emitting tractors by approximately 33-80%, according to the U.S EPA, by increasing the fuel economy of tractor trailers from approximately 5-6 mpg to 8-9 mpg in 2027.[12] Although such reductions in GHGs will be attributed to the proposed Project through the Rule 9510 ISR, these reductions are not reflected in the Project GHG modeling estimates included herein, except that the modeling estimates do reflect that fact that the Project does not include any open-hearth fireplaces. It is notable, however, that the GHG reductions are projected to be substantial and are in alignment with the goals of the 2022 Scoping Plan.

CONCLUSION

Overall, the proposed Project generally does not conflict with, and is consistent with, applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of greenhouse gases. Specifically, the Project is generally consistent with the State's long-term climate goals and strategies with the exception of reducing VMT. The analysis includes an assessment of the Project's consistency with the CARB's 2022 Scoping Plan, Air District requirements, and the latest applicable RTP/SCS. This assessment includes a consistency analysis with regulations or requirements adopted to reduce greenhouse gas emissions, and also evaluates Project specific GHG emissions and the extent to which they are able to be reduced by effective mitigation strategies including Project design features and mitigation measures.

For the reasons discussed above, this EIR concludes out of an abundance of caution that the impact related to consistency with the Scoping Plan is ***significant and unavoidable***. Nevertheless, the Project's carbon reduction features and mitigation measures make the Project consistent with the 2022 RTP/SCS and SJAPCD policies and regulations, and impacts associated with these plans, policies and regulations are **less than significant**.

[10] See the SJVAPCD's Indirect Source Review Rule Annual Report (2022) for more detail: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview/isr-annual-report/

[11] See Table G-23 of the CalEEMod v2022.1 Appendix (Appendix G) for detail.

[12] See page 677 of the *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Phase 2 (Response to Comments for Joint Rulemaking)* for detail: https://www.nhtsa.gov/sites/nhtsa.gov/files/phase2-hd-fuel-efficiency-ghg-response-to-comments.pdf

Impact 3.7-3: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources (Less than Significant)

The CEQA Guidelines requires consideration of the potentially significant energy implications of a Project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources (i.e., wind, solar, hydro, etc.). In particular, the proposed Project would be considered "wasteful, inefficient, and unnecessary" if it were to violate State and federal energy standards and/or result in significant adverse impacts related to Project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The amount of energy used by the proposed Project during operation would directly correlate primarily with the amount of energy used by Project buildings and outdoor lighting, and the generation of vehicle trips associated with the proposed Project. Other Project energy uses include fuel used by vehicle trips generated during Project construction and operation, fuel used by off-road construction vehicles during construction activities, and fuel used by Project maintenance activities during Project operation. The following discussion provides a detailed calculation of energy usage expected for the proposed Project, as provided by applicable modelling software (i.e., CalEEMod 2022.1 and the CARB's EMFAC2021). Additional assumptions and calculations are provided within Appendix B of this EIR.

ELECTRICITY AND NATURAL GAS

Operation. Electricity and natural gas used by the proposed Project would be used primarily to generate energy for outdoor parking lot lighting. As shown in the following tables, "Energy" is one of the categories that was modeled for GHG emissions. The CalEEMod outputs shows that proposed Project electricity consumption would be approximately 20,982,922 kWh per year, and natural gas consumption would be approximately 51,728,058 kBTU per year.

The proposed Project is anticipated to implement renewable energy features. In particular, the proposed Project would be required to implement on-site solar, consistent with the most recent (2022) Title 24 standards or better. The 2022 Title 24 standards require single-family homes and low-rise multi-family projects to install solar photovoltaic (PV) systems and be "battery-ready", by installing either a subpanel or a split-bus main panel with four backed-up circuits.[13] This is a requirement as part of the 2022 Title 24 standards. However, it should be noted that additional on-site solar PV could be installed, especially in the case that stricter Title 24 standards come into effect prior to portions of Project development. It should also be noted that, since the exact amount of electricity offset by on-site renewable energy is unknown at this time, the utility-based electricity

[13] See: https://calsolarinc.com/news/title-24-california/

offset by the on-site solar was not modeled (for the sake of a conservative analysis).

Separately, the 2022 Title 24 standard requires that the number of electric vehicle (EV) charging spaces depends on the building type and total number of parking spaces on-site, and Mitigation Measure 3.7-2 requires "EV Ready" spaces. Similarly, such requirements would be anticipated to further reduce energy consumption beyond what is modeled herein.

Further, Mitigation Measures 3.7-1 requires the Project developers to install 100% Energy Star appliances, install low-flow and/or high-efficiency water fixtures, and install drought-tolerant landscaping. With these features and mitigation measures, Project operations would not use energy in an inefficient, wasteful, or unnecessary way.

Construction. Temporary electric power for as-necessary lighting and electronic equipment, such as computers inside temporary construction trailers, and water for dust control would be provided by PG&E. The electricity used for such activities would be temporary, would be substantially less than that required for Project operation, and would therefore have a negligible contribution to the Project's overall energy consumption. Natural gas is not anticipated to be required during construction of the Project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the "on-road and off-road vehicles" subsections. Any minor amounts of natural gas that may be consumed as a result of Project construction would be substantially less than that required for Project operation and would have a negligible contribution to the Project's overall energy consumption.

ON-ROAD VEHICLES (OPERATION)

The proposed Project would generate vehicle trips during its operational phase. A description of Project operational on-road mobile energy usage is provided below.

According to the Traffic Study prepared for the proposed Project (KD Anderson, Inc., 2021), the Project would increase automobile VMT by approximately 37,150 net new daily trips. In order to calculate operational on-road vehicle energy usage and emissions, De Novo Planning Group used fleet mix data from the CalEEMod (2022.1) output for the proposed Project, Year 2040 gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2021, weighted average MPG factors for gasoline and diesel were derived. Therefore, upon full buildout, the proposed Project would generate operational vehicle trips that would use a total of approximately 7,011 gallons of gasoline and 1,517 gallons of diesel per day, or 2,559,055 gallons of gasoline and 553,615 gallons of diesel per year.

Over the lifetime of the Project, the fuel efficiency of the vehicles being used by the Project is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the Project site during operation would decrease over time. Numerous regulations are in place that require and encourage increased fuel efficiency. For example, CARB has adopted a new approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and ZEVs in California. The Project would be

required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes, which would minimize fuel consumption. Operation of the Project is expected to use decreasing amounts of petroleum over time due to advances in fuel economy. The Project would provide a bike-friendly, pedestrian-friendly development and facilitate ride-sharing and carpooling to reduce VMT.

In summary, although Project implementation would result in an increase in petroleum use during construction and operation, over time vehicles would use less petroleum due to advances in fuel economy. Additionally, the Project would include features that would encourage electric and zero-emissions technology, and reduced VMT through bike trails, sidewalks, and the provision of transit information. Given these considerations, petroleum consumption associated with the Project would not be considered inefficient or wasteful, and impacts would be less than significant.

ON-ROAD VEHICLES (CONSTRUCTION)

The proposed Project would also generate on-road vehicle trips during Project construction (from construction workers and vendors travelling to and from the Specific Plan Area). Vehicle fuel consumed during these trips is estimated based the assumed construction schedule, vehicle trip lengths and number of workers per construction phase as provided by CalEEMod, and Year 2023 gasoline and diesel MPG factors provided by EMFAC2021. For the sake of simplicity, it was assumed that all construction worker light duty passenger cars and truck trips use gasoline as a fuel source, and all medium and heavy-duty vendor trucks use diesel fuel. Table 3.7-6, below, describes gasoline and diesel fuel consumed during each construction phase (in aggregate). As shown, the vast majority of on-road mobile vehicle fuel used during the construction of the proposed Project would occur during the building construction phase. See Appendix B of this EIR for a detailed accounting of construction on-road vehicle fuel usage estimates.

TABLE 3.7-6: ON-ROAD MOBILE FUEL GENERATED BY PROJECT CONSTRUCTION ACTIVITIES – BY PHASE

CONSTRUCTION PHASE	*# OF DAYS*	*TOTAL DAILY WORKER TRIPS(A)*	*TOTAL DAILY VENDOR TRIPS(A)*	*TOTAL HAULER WORKER TRIPS(A)*	*TOTAL GALLONS OF GASOLINE FUEL(B)*	*TOTAL GALLONS OF DIESEL FUEL(B)*
Demolition	30	15	0	9	**180**	**33**
Site Preparation	240	18	0	0	**1,728**	**0**
Grading	620	20	0	0	**4,960**	**0**
Building Construction	2717	2,019	404	0	**109,713**	**72,872**
Paving	440	15	0	0	**2,640**	**0**
Architectural Coatings	2915	404	0	0	**23,553**	**0**
Total	**N/A**	**N/A**	**N/A**	**N/A**	**142,774**	**72,905**

NOTE: (A) PROVIDED BY CALEEMOD OUTPUT. (B) SEE APPENDIX B OF THIS EIR FOR FURTHER DETAIL.

SOURCE: CALEEMOD (V. 2022.1); EMFAC2021.

OFF-ROAD VEHICLES (CONSTRUCTION)

Off-road construction vehicles would use diesel fuel during the construction phase of the proposed Project. A non-exhaustive list of off-road constructive vehicles expected to be used during the construction phase of the proposed Project includes: forklifts, generator sets, tractors, excavators, and dozers. Based on the total amount of CO_2 emissions expected to be generated by the proposed Project (as provided by the CalEEMod output), and standard conversion factors (as provided by the U.S. Energy Information Administration), the proposed Project would use a total of approximately 244,972 gallons of diesel fuel for off-road construction vehicles. Detailed calculations are provided in Appendix B of this EIR.

On-road and off-road construction equipment would meet all applicable state standards and would be properly maintained. Further, idling would be limited to three minutes under Mitigation Measure 3.7-3, which would prevent wasteful fuel use and construction equipment also would comply with waste reduction requirements. Further, the petroleum consumed related to Project construction would be typical of construction projects of similar types and sizes and would not necessitate new petroleum resources beyond what are typically consumed in California. Therefore, because petroleum use during construction would be temporary and relatively minimal, and would not be wasteful or inefficient, impacts would be less than significant.

OTHER

All residences developed within the Plan Area would include rooftop solar, consistent with California's 2020 Solar Mandate. The California solar mandate took effect on January 1, 2020, and is part of California's building codes. The energy consumption estimates provided herein account for an estimate of the impact of the on-site rooftop solar, consistent with this requirement. Individual users may choose to install additional on-site rooftop solar over time, at their discretion and cost, and/or consistent with more stringent future on-site solar requirements, which could further reduce the proposed Project's energy consumption as described herein.

Separately, the CEC also unanimously approved a change to the building codes to require many new commercial buildings to have solar panels and battery storage. This new commercial mandate will likely take effect on January 1, 2023. The commercial buildings included in this change include high-rise residential projects, hotels, offices, medical offices, health clinics, retailers, grocery stores, restaurants, schools and civic spaces. However, for the sake of a conservative analysis, the reduction in proposed Project energy usage that could occur due to this requirement is not accounted for within the estimates provided in this discussion.

Furthermore, the proposed Project would implement a Neighborhood Electric Vehicle (NEV) system for the active adult villages and community core, as proposed as part of the Specific Plan. NEVs are one of several types of Low Speed Vehicle (LSV), also known as Low Speed Electric Vehicle or (LSEV). The River Walk Trail is intended to provide complete connectivity, through a network of paved Class I Bike Paths and NEV lanes, as well as natural (unpaved) trails. Lastly, the proposed Project would be required to comply with the Model Water Efficient Landscaping Ordinance, which, by reducing water consumption, would likely further reduce energy consumption beyond the values provided herein.

CONCLUSION

The proposed Project would use energy resources for the operation of Project buildings (natural gas and electricity), outdoor lighting (electricity), for on-road vehicle trips (e.g., gasoline and diesel fuel) rerouted by the proposed Project, and from off-road and on-road construction activities associated with the proposed Project (e.g., diesel fuel). Each of these activities would require the use of energy resources. The proposed Project would be responsible for conserving energy, to the extent feasible, and relies heavily on reducing per capita energy consumption to achieve this goal, including through statewide and local measures.

The proposed Project would comply with all applicable federal, State, and local regulations regulating energy usage. For example, MID and PG&E, the electric providers to the proposed Project, are responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the statewide RPS to increase the proportion of renewable energy (e.g., solar and wind) within its energy portfolio. MID and PG&E has achieved at least a 33% mix of renewable energy resources in 2020 and is on track to achieve 60% mix of renewable energy by 2030. The proposed Project would also be required to implement the applicable Title 24 energy efficiency requirements, as well as other State requirements, such as the California Solar Mandate, as well as all applicable regional and local requirements that affect energy efficiency. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g., the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Furthermore, future state, regional, and/or local requirements are likely to become more stringent over time. The proposed Project would also implement an (NEV) system for the active adult villages and community core, as proposed as part of the Specific Plan.

The proposed Project would comply with all existing energy standards and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed Project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the threshold as described by the *CEQA Guidelines*. This is a ***less than significant*** impact.

Impact 3.7-4: The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (Less than Significant)

State and local renewable energy and energy efficiency plans applicable to the Proposed Project are discussed above under Regulatory Framework. State plans include the AB 1493 Pavley Rules, California Title 24 energy efficiency standards, Executive Order B-16-12, SB 350, SB 100, and SB 1020. Each contains required standards related to energy efficiency and renewable energy development. Local plans that address energy efficiency to achieve the state's RPS mandates include PG&E's 2020 IRPs and the City's CAP. The City's General Plan and Municipal Code also include goals, policies, and requirements related to energy use and energy reductions.

As discussed above under Impact 3.7-3, the Proposed Project would incorporate sustainability features. The Project would comply with the latest (and most stringent) version of Title 24. Furthermore, the Proposed Project would incorporate VMT-reduction measures, install photovoltaic panels, and have wiring for batteries to store solar energy for use during evening, peak demand hours. The Proposed Project would be required to comply with state and local renewable energy and energy efficiency plans. As a result, it would benefit from renewable energy development and increases in energy efficiency. Energy usage from vehicle trips is expected to become more efficient under regulations included in Pavley and EO B-16-12, which address average fuel economy and commercialization of zero-emission vehicles, respectively. Building energy efficiency is also expected to increase as a result of compliance with Title 24 building codes, which are expected to move toward zero net energy for new construction and 100 percent renewable energy under SB 350, SB 100, and SB 1020 regulations. With implementation of the Project, PG&E would continue to pursue the procurement of renewable energy sources to meet their RPS portfolio goals and comply with state regulations. Therefore, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and the impact would be less than significant. No mitigation is required. Moreover, the proposed Project would not generate cumulative impacts in this regard since the Project would be consistent with all state and local plans for renewable energy and energy efficiency.

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The purpose of this section is to disclose and analyze the potential impacts associated with hazards and hazardous materials related to the Project Area and general vicinity, and to analyze the potential for exposure of people to hazards and hazardous materials as the Project is built and operated in the future. This section is based in part on the *Phase 1 Environmental Site Assessment Report, 1711 Patterson Road, Riverbank, California* (Partner Engineering and Science, Inc., 2017), *City of Riverbank General Plan 2005-2025* (City of Riverbank, 2009), and the *City of Riverbank Draft Environmental Impact Report for the 2005-2025 General Plan Update* (City of Riverbank, 2008).

A comment from the California Department of Toxic Substances Control (DTSC, July 15, 2021) was received during the NOP comment period regarding hazards and hazardous materials. Full comments received are included in Appendix A.

3.8.1 ENVIRONMENTAL SETTING

PHYSICAL SETTING

Project Location

The proposed Project is located in the unincorporated area of Stanislaus County and adjacent to the City of Riverbank, north of Patterson Road/State Route (SR) 108, east of McHenry Avenue, and approximately two miles northwest of downtown Riverbank. Figures 2.0-1 shows the Project's regional location and vicinity.

The proposed Project includes a proposed Specific Plan, as well as a Sphere of Influence (SOI) Amendment. The entire Project Area includes approximately 1,522 acres within the unincorporated county adjacent to the City of Riverbank. The River Walk Plan Area includes a 997-acre area to be annexed and subsequently developed. The remaining land within the Project Area is part of the SOI Amendment, and would be held as Reserve land for possible long-range planning at some future time.

The overall Project Area includes several distinct planning boundaries defined below. The following terms are used throughout this DEIR to describe planning area boundaries within the Project Area:

- SOI Expansion Area – includes the proposed Sphere of Influence Amendment and encompasses the entire Project Area.
- Specific Plan Area - includes all lands identified and included within the River Walk Specific Plan. The Specific Plan Area is proposed to be annexed into the City of Riverbank as part of the proposed Project. The Specific Plan Area is a portion of the SOI Expansion Area.
- Berghill Boundary – includes areas within the Specific Plan Area that are controlled by the project applicant.
- Project area - includes the SOI expansion area, including the Specific Plan and Berghill Boundary. The Project Area is the same boundary as the SOI Expansion Area.

Project area boundaries are shown on Figure 2.0-2 and acreages associated with each area are shown in Table 2.0-1. As shown on Figure 2.0-2 and in Table 2.0-1, the proposed Project includes

approximately 1,522 acres encompassing: (1) the Specific Plan Area that includes a total of 997 acres, including the Berghill Boundary, and (2) the SOI Expansion Boundary, which makes up the entire Project Area.

Existing Site Uses

The current uses in the Project Area are predominantly agricultural operations, including almond and walnut orchards in the eastern/southeastern portion of the Project Area and cherry orchards and fallow land in the western/central portion of the Project Area. The land in the north/northwestern portion of the Project Area contains fallow land and various trees including Eucalyptus and Willow trees. In the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. Additionally, a horse ranch exists within the Project Area. The Project Area also includes a commercial nursery business and truck storage area. Additionally, an approximately 150-acre solar farm and the Modesto Rifle Club exist in the southwest portion of the Project Area directly northeast of the intersection of Patterson Road and McHenry Avenue, and the Morris Nursery exists in the southeastern corner of the Project Area directly northwest of the intersection of Patterson Road and Rock Creek Road. Figure 2.0-5 shows aerial imagery of the Project Area.

The Modesto Irrigation District (MID) provides the water supply for the existing agricultural uses and maintains two easements in the Project Area. A MID main canal with a crossing is located approximately 950 feet to the west and approximately 0.45 miles to the east of the intersection of Patterson Road and Coffee Road in the southern portion of the Project Area. The canal enters in the southwest portion of the Project Area and runs to the northeast eventually curving to exit the Project Area in the southeast. A series of private irrigation ditches and pipes distribute the MID water from the on-site canals throughout the Project Area for agricultural use.

Assessed uses as identified by the County Assessor include predominantly agricultural uses, with limited areas assessed by the County Assessor as single family residential, commercial, office and other miscellaneous uses. Figure 2.0-6 shows Assessed Land Uses within the Project Area as identified by the County Assessor.

Existing Surrounding Uses

The Project Area is located outside the northwestern boundary of the City of Riverbank Sphere of Influence (SOI), within the unincorporated area of Stanislaus County. The Project Area is bounded on the north by the Stanislaus River and Stanislaus County Limits, on the south by Patterson Road, on the west by McHenry Avenue, and on the east by a single-family residential subdivision. Uses immediately adjacent to the south and southwest of the Project Area include agricultural uses and residential uses, including ranchettes and large estate lots. Uses directly southeast of the Project Area include agricultural uses and a single-family residential subdivision. Other existing uses east of the southerly portion of the Project Area include a single-family residential subdivision and a commercial center. Uses immediately west of the Project Area include active agricultural land and the Del Rio Country Club, including a golf course and associated single-family residential subdivision.

Other nearby uses include agricultural uses and residential uses, including ranchettes and large estates lots to the north, northeast, and northwest across the Stanislaus River. Figures 2.0-1 and 2.0-2 in Section 2.0, Project Description, illustrate the regional location and Project vicinity.

Site Topography

The Project Area topography ranges greatly in elevation from approximately 75 to 159 feet above sea level. The high area to the south and west is approximately 100 to 125 feet above mean sea level and acts as a ridge surrounding the lowland areas which are approximately 75 to 80 feet above mean sea level. There is a steep banked slope that separates the high and low areas. Other than the prominent steep sloping banked areas, the majority of the Project Area contains gentle slopes and is generally characterized as flat. Figure 2.0-4 shows the topography of the Project Area.

Site Soils

The Natural Resources Conservation Service (NRCS) Web Soil Survey indicates the presence of nine soil series occurring within the Project Area. Table 3.8-1 identifies the soils found in the Project Area.

TABLE 3.8-1: NRCS SOIL SERIES INFORMATION

UNIT SYMBOL	*NAME*	*SPECIFIC PLAN AREA - ACRES*	*SOI ONLY - ACRES*	*GRAND TOTAL*	*CAPABILITY CLASS*
132	Columbia Fine Sandy Loam	0.49	0.00	0.49	III-IV
DeA	Delhi loamy sand, 0 to 3 percent slopes	7.50	0.00	7.50	III-IV
DeB	Delhi loamy sand, 3 to 8 percent slopes	1.57	0.00	1.57	III-IV
DhA	Delhi sand, 0 to 3 percent slopes	4.73	2.89	7.62	III-IV
DhB	Delhi sand, 3 to 8 percent slopes	122.23	4.28	126.52	III-IV
FoA	Foster very fine sandy loam, very poorly drained, slightly saline-alkali, 0 to 1 percent slopes	31.45	5.51	36.97	III-IV
GfA	Grangeville fine sandy loam, 0 to 1 percent	155.96	14.22	170.18	II-IV
GmA	Grangeville very fine sandy loam, 0 to 1 percent	253.78	44.33	298.11	II-IV
GnA	Grangeville very fine sandy loam, slightly saline-alkali, 0 to 1 percent slopes	138.03	0.00	138.03	II-IV
GoA	Grangeville very fine sandy loam, moderately saline-alkali, 0 to 1 percent slopes	30.84	0.00	30.84	III-IV
GsA	Greenfield sandy loam 0 to 3 percent slopes	14.57	0.00	14.57	I-IV
GvA	Greenfield sandy loam, deep over hardpan	23.70	5.01	28.72	II-IV
HbmA	Hanford fine sandy loam, moderately deep over sand, 0 to 3 percent slopes	18.60	0.00	18.60	III-IV
HdA	Hanford sandy loam, 0 to 3 percent	98.65	219.13	317.78	I-IV
HdpA	Hanford sandy loam, moderately deep over silt	0.72	16.42	17.14	II-IV
OaA	Oakdale sandy loam, 0 to 3 percent	0.00	21.97	21.97	I-IV
Rr	Riverwash	23.86	6.20	30.05	0-VIII
TuA	Tujunga loamy sand, 0 to 3 percent slopes	31.74	114.04	145.77	III-VI

UNIT SYMBOL	NAME	SPECIFIC PLAN AREA - ACRES	SOI ONLY - ACRES	GRAND TOTAL	CAPABILITY CLASS
TuB	Tujunga loamy sand, 3 to 5 percent slopes	0.70	30.61	31.31	III-VI
TvA	Tujunga sand, 0 to 3 percent slopes	0.00	5.66	5.66	IV-VI
Tx	Terrace escarpments	32.15	33.83	65.97	0-VIII
W	Water	5.92	0.13	6.05	0
	Grand Total	***997.18***	***524.23***	***1,521.41***	

SOURCE: NRCS CUSTOM SOIL SURVEY 2023, STANISLAUS COUNTY SOIL SURVEY, 1992.

HAZARDS ASSESSMENT

For the purposes of this EIR, "hazardous material" is defined as provided in California Health & Safety Code, Section 25501:

- Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.

"Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous waste" is a subset of hazardous materials. For the purposes of this EIR, the definition of hazardous waste is essentially the same as that in the California Health & Safety Code, Section 25517, and in the California Code of Regulations (CCR), Title 22, Section 66261.2:

- Hazardous wastes are wastes that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

CCR Title 22 categorizes hazardous waste into hazard classes according to specific characteristics of ignitibility, corrosivity, reactivity, or toxicity. Hazardous waste with any of these characteristics is also known as a Resource Conservation and Recovery Act (RCRA) waste.

Hazardous materials can be categorized as hazardous non-radioactive chemical materials, radioactive materials, toxic materials, and biohazardous materials. The previous definitions are adequate for non-radioactive hazardous chemicals. Radioactive and biohazardous materials are further defined as follows:

- Radioactive materials contain atoms with unstable nuclei that spontaneously emit ionizing radiation to increase their stability.

- Radioactive wastes are radioactive materials that are discarded (including wastes in storage) or abandoned.
- Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead). When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute groundwater.
- Biohazardous materials include materials containing certain infectious agents (microorganisms, bacteria, molds, parasites, and viruses) that cause or significantly contribute to increased human mortality or organisms capable of being communicated by invading and multiplying in body tissues.
- Medical wastes include both biohazardous wastes (byproducts of biohazardous materials) and sharps (devices capable of cutting or piercing, such as hypodermic needles, razor blades, and broken glass) resulting from the diagnosis, treatment, or immunization of human beings, or research pertaining to these activities.

There are countless categories of hazardous materials and hazardous wastes that could be found on any given property based on past uses. Some common examples include agrichemicals (chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE)), petroleum-based products (oil, gasoline, diesel fuel), a variety of chemicals including paints, cleaners, and solvents, and asbestos-containing or lead-containing materials (e.g., paint, sealants, pipe solder).

A Phase I Environmental Site Assessment (ESA) was completed for the Berghill Boundary by Partner Engineering and Science, Inc. in July 2017 (see Appendix E). The purpose of the Phase I ESA was to identify evidence or indications of "recognized environmental conditions" (REC) as defined by the American Society for Testing and Materials (ASTM) *Designation E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The ASTM defines an REC as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

The ASTM also defines "Historical" and "Controlled" RECs (HRECs and CRECs, respectively). An HREC is defined as "a past release of any hazardous substance or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)." A CREC is defined as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation or required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering

controls." An HREC is not an REC if a property meets current standards for unrestricted residential use. A CREC remains and REC by definition when the property does not meet the unrestricted residential use requirement unconditionally.

Site Reconnaissance

As part of the Phase I ESA, site reconnaissance was conducted on April 4, 2017. The survey included walking and driving throughout all accessible areas of the Berghill property to observe site features and conditions. As part of the Phase I ESA, observations of properties adjacent to the Berghill property were also made from the site and the surrounding public roads. Environmental concerns were identified during the onsite reconnaissance related to onsite fuel aboveground storage tanks (ASTs) and the storage and usage of pesticides and insecticides for the agricultural land.

General observations of the Berghill property and surrounding area included:

- Solid waste generated at the Berghill property is disposed of in commercial dumpsters located near the onsite barn of the Berghill property. An independent solid waste disposal contractor removes solid waste from the Berghill property. According to property personnel, only household trash is collected in the onsite solid waste dumpsters. Sanitary discharges from the Berghill property are directed to an onsite septic system.
- Storm water throughout the large site is removed via direct infiltration to unpaved land and/or sheet flow into the site irrigation canals. The Berghill property does not appear to be a designated wetland area aside from a small, isolated area at the southeast site corner and areas adjacent to the Stanislaus River, based on information obtained from the United States Department of Agriculture and/or United States Fish & Wildlife Service. No surface impoundments, wetlands, natural catch basins, settling ponds, or lagoons are located on the Berghill property. No drywells were identified on the Berghill property.
- Heating and cooling systems as well as domestic hot water equipment are fueled by electricity/natural gas provided by Pacific Gas & Electric. No industrial process is currently performed at the Berghill property.
- The key site manager indicated there are four onsite agricultural water wells and one domestic well for the onsite residence. Domestic wastewater generated at the Berghill property is disposed by means of the septic system.

The Phase I ESA identified hazardous substances used, stored, and/or generated on the Berghill property, as noted in the following table:

TABLE 3.8-2: HAZARDOUS SUBSTANCES AND/OR PRODUCTS NOTED ONSITE

SUBSTANCE	*CONTAINER SIZE*	*LOCATION*	*NATURE OF USE*
Diesel	Approximately 300 gallons	West of barn	Farming machinery fuel
Pesticides, herbicides and insecticides	Approximately 100 consumer-sized containers	Eastern half of barn interior	Farming

SOURCE: PARTNERS, INC. 2017.

As shown in Table 3.8-2, two hazardous substances (diesel fuel and pesticides, herbicides, and insecticides) are currently stored at the Berghill property in and/or near the barn structure. The

materials were found to be properly labeled and stored at the time of the assessment with no signs of leaks, stains, or spills. Secondary containment is provided where applicable. Based on the typical nature of use of these materials for large-scale farming operations, and the absence of evidence of releases, these materials are not expected to represent a significant environmental concern.

No evidence of current or former underground storage tank (USTs) was observed during the site reconnaissance. A LUST case associated with a former onsite UST is discussed later on in this section. As part of the Phase I ESA, one active AST and two or three inactive ASTs on the Berghill property, typical of a large-scale farming operation. The active and inactive ASTs are located around the Berghill property barn. The active AST stores diesel fuel (see Table 3.8-2), is approximately 300 gallons in capacity, and is equipped with a secondary containment enclosure. No staining, leaks or spills were noted in the vicinity of the ASTs, and no releases have been reported to Stanislaus County. No spills, stains or other indications that a surficial release has occurred at the Berghill property were observed. No potential PCB-containing equipment (transformers, oil-filled switches, hoists, lifts, dock levelers, hydraulic elevators, etc.) was observed on the Berghill property during Partner's reconnaissance.

No strong, pungent or noxious odors were evident during the site reconnaissance. No pools of liquid were observed on the Berghill property during the site reconnaissance. No drains, sumps, or clarifiers, other than those associated with storm water removal, were observed on the Berghill property during the site reconnaissance. No pits, ponds or lagoons were observed on the Berghill property. No stressed vegetation was observed on the Berghill property. No additional environmental hazards, including landfill activities or radiological hazards, were observed.

Interviews and Questionnaires

As part of the Phase I ESA, interviews were conducted with Mr. Mike Berg, the Berghill property owner. Mr. Berg was interviewed regarding past and present use of the Project Area and the potential for impacts related to the use, storage, or disposal of hazardous substances and/or petroleum on the Berghill property. Mr. Berg was not aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the Berghill property; any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the Berghill property; or any notices from a governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products. Mr. Berg, who has owned the property since 2013, indicated there are four onsite agricultural water wells and one domestic well for the onsite residence. The residence is equipped with an onsite septic system. According to Mr. Berg, there are no USTs, clarifiers, oil/water separators, or groundwater monitoring wells on the Berghill property to the best of his knowledge.

Historical Use Information

Historical information was reviewed to develop a history of the previous uses in the Berghill property and surrounding area, in order to evaluate the Berghill property and adjoining properties for evidence of RECs. Standard historical sources reviewed during the preparation of this report included the following, as available: Aerial Photographs, Environmental Records, and Databases.

The Berghill property is depicted on the 1916 map as mainly undeveloped, marshy land with two structures in the general area of the current residence and barn. The Berghill property is currently and has historically been used for agricultural purposes (orchards). As such, agricultural related chemicals such as pesticides, herbicides, and fertilizers have been used and stored onsite. No potential environmental concerns were identified in association with the current or former use of the Berghill property.

Aerial Photographs

Aerial photographs of the Project Area and general vicinity were reviewed. In 1950, the Project Area contained mainly agricultural land with a small cluster of structures, including the current barn, located in the general area of the two existing structures. Agricultural operations appear to have occurred throughout the majority of the Project Area during this time. In 1957, fewer structures are found onsite. In 1976, the Project Area appears generally similar to the current conditions. From 1976 to present, the Project Area has remained in agricultural use with the existing rural residential uses remaining throughout the site.

Outside the Berghill property area, at the southeast corner of the Project Area along Patterson Avenue, uses historically consisted of large lot ranchette style residential with agricultural supporting structures, orchards and cropland. These lots have generally remained undeveloped with a few scattered structures and no significant changes depicted since the early 1900's.

Findings

A REC refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: due to release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment. The Phase I ESA did not identify any RECs during the course of this assessment.

A HREC refers to a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls. The following was identified during the course of the Phase I ESA:

- The Berghill property, identified as Del Rio Orchards Ruth Wendt/Quality Nut at 1711 Patterson Road, reported a release of gasoline which reportedly impacted soil only. The release occurred as a result of an unauthorized release from a former onsite UST, and the release was reported to the lead agency (Stanislaus County) in 1991. The records pertaining to the UST removal show various capacities, including 400 to 500 gallons, 2,000 gallons, and 2,500 gallons. However, the evidence appears to indicate that there was one 2,000-gallon UST located to the northwest of the current barn, and this tank was removed in 1991. The tank appears to have been installed in the late 1980s. When the tank was removed, slight hydrocarbon odor was detected at approximately 15-feet below ground surface (bgs). Soil samples were collected from the tank pit excavation bottom, and analyzed for the standard suite of hydrocarbons including motor oil, diesel, BTEX, TEPH, and kerosene, with all results

coming back non-detectable except for one location where diesel was found at a concentration of 81.5 ppm. A week later, on April 9, 1991, this area was resampled and retested, and the results were found to be non-detectable. The responsible party is identified as Quality Nut, and regulatory closure was obtained in 1991. Based on the removal of the UST and the regulatory closure, the former UST and associated leak are considered a HREC and no further action is considered necessary.

An environmental issue refers to environmental concerns identified in the Phase I ESA, which do not qualify as RECs; however, these environmental issues warrant further discussion. The following was identified during the course of the Phase I ESA:

- One active aboveground storage tank (AST) and two or three inactive ASTs were observed on the Berghill property, typical of a large-scale farming operation. As noted in Table 3.8-1, the active and inactive ASTs are located around the Berghill property barn. The active AST stores diesel fuel, is approximately 300 gallons in size, and is equipped with a secondary containment enclosure. No staining, leaks or spills were noted in the vicinity of the ASTs. Based on the nature of the use, the ASTs are not expected to represent a significant environmental concern.
- The Berghill property is currently and has historically been used for agricultural purposes (orchards and row crops). As such, agricultural-related chemicals such as pesticides, herbicides, insecticides, and fertilizers have been used and stored onsite.
- Due to the age of the Berghill property buildings (pre-1978), there is a potential that asbestos-containing material (ACM) and/or lead-based paint (LBP) are present.

Environmental Records and Databases

There is a broad list of federal, state, and local databases that provide information for sites with varying potential for risk from the possible existence of hazardous materials. A search of local, state, and federal agency databases for the Project Area and known contaminated sites in the vicinity was performed. Only one parcel in the Project Area was found to contain a known contamination. Below is a brief summary of each database.

Toxic Release Inventory: The U.S. Environmental Protection Agency (EPA) Toxic Release Inventory (TRI) does not list data on disposal or other releases of toxic chemicals in the Project Area (USEPA, 2015). There are two TRI sites in the City of Riverbank. The nearest TRI site to the Project Area is located at 3250 Patterson Road in Riverbank, approximately 2.6 miles east of the Project Area.

Envirostor: The California DTSC maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. The Envirostor database indicates there is a site located on the Berghill property. The next nearest site listed on the Envirostor database is located at 5800 Saxon Way, approximately 2.2 miles east of the Project Area. This site, the Elementary School No. 11 site, was investigated for potential contaminants of concern. The investigation concluded that there are no contaminants of concern at the Elementary School No. 11 site and the site received a “No Further Action” cleanup status on November 1, 2004.

In addition, adjacent or nearby properties to the west and south were identified as former and/or current UST sites in the regulatory database report. The addresses for these sites are:

- 423 Hogue Road
- 125 Hogue Road
- 7050 McHenry Avenue
- 1329 Patterson Road
- 121 Steward Road
- 1817 Patterson Road

GeoTracker: *GeoTracker* is a geographic information system (GIS) that provides online access to environmental data and is the interface to the Geographic Environmental Information Management System (GEIMS), a data warehouse which tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. It is the State Water Resources Control Board's (SWRCB's) Internet-accessible database system used by the SWRCB, regional boards, and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from USTs. See Table 3.8-3 for a complete list of sites identified by the GeoTracker database within one mile of the Project Area. The Quality Nut AKA John Hancock Hogue site is only the site located within the Berghill property area. It is noted that in some databases this site is identified as "Ruth Wendt/Quality Nut", which is the same site.

TABLE 3.8-3: GEOTRACKER HAZARDOUS MATERIAL RELEASE SITES WITHIN 1.0 MILE OF PLAN AREA

SITE NAME	*TYPE*	*STATUS*	*ADDRESS*
Cipponeri Trucking	LUST Cleanup Site	Completed – Case Closed	20107 Patterson Rd.
ARCO #5565	LUST Cleanup Site	Completed – Case Closed	6345 Oakdale Rd.
Riverbank Cruisers #34	Permitted UST	Active	2201 Patterson Rd.
Quality Nut AKA John Hancock Hougue	LUST Cleanup Site	Completed – Case Closed	1711 Patterson Rd.

NOTES: UST = UNDERGROUND STORAGE TANK, LUST = LEAKING UNDERGROUND STORAGE TANK.
SOURCE: SWRCB, GEOTRACKER, 2019.

Searches of the above resources and records identified four (one active and three inactive) hazardous material sites within one mile of the Project Area known to handle and store hazardous materials that are associated with a hazardous material related release or occurrence. The terms "release" or "occurrence" include any means by which a substance could harm the environment: by spilling, leaking, discharging, dumping, injecting, or escaping. Table 3.8-3 displays the hazardous material sites within 1 mile of the Project Area with a description of the hazards provided. As noted previously, the Berghill property in the Project Area was found to contain a LUST contamination which has since been closed. In addition, one open case, the Riverbank Cruisers #34 permitted UST site, is located approximately 0.83 miles southeast of the Project Area.

In addition to sites listed above, the Project Area and the surrounding areas do not contain identified oil and gas monitoring wells.

Solid Waste Information System: The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Department of Resources Recycling and Recovery

(CalRecycle). The SWIS data identifies active, planned and closed sites. The Project Area does not have any active or planned solid waste facilities listed in the database. The nearest active facility, Eleanor Ranch, is located approximately 3.9 miles east of the Project Area.

National Priorities List: The National Priorities List (NPL) of Superfund Sites and Proposed NPL Sites is EPA's database of more than 1,200 sites designated or proposed for priority cleanup under the Superfund program. NPL sites may encompass relatively large areas. The Project Area is not listed in this database.

RCRIS System: The Resource Conservation and Recovery Information System (RCRIS) is an EPA database that includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Identification on this list does not indicate that there has been an impact on the environment. The Project Area is not listed in this database.

CERCLIS Data: Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) is an EPA database that contains information on potential hazardous waste sites that have been reported to the EPA by states, municipalities, private companies, and individuals, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites that are either proposed for or on the NPL, as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Project Area is not listed in this database.

CORRACTS: Corrective Action Report (CORRACTS) is an EPA database that identifies hazardous waste handlers with RCRA corrective action activity. The Project Area is not listed in this database.

Cortese Database: The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release, and all solid waste disposal facilities from which there is known hazardous substance migration. The source of this database is the California Environmental Protection Agency (Cal-EPA) and are found in the GeoTracker database.

Government Code Section 65962.5 requires the Cal EPA to annually update the Cortese List. The DTSC is responsible for preparing a portion of the information that comprises the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information that is part of the complete list.

Phase I ESA Records Review: As part of the Phase I ESA completed for the Berghill Property, federal, state, and local environmental databases for the Berghill Property and properties within one mile of the site were searched. This included the entire Project Area. Table 3.8-4 lists the databases that were searched, and the number of listings within each database. Other databases that were searched and which listed no properties within their search distances are not listed in the table.

The Project Area is located on the following databases: LUST, SWEEPS UST, CA FID UST, HIST CORTESE, and HIST UST site in the regulatory database report. The Berghill property, identified as Del Rio Orchards Ruth Wendt/Quality Nut at 1711 Patterson Road, reported a release of gasoline

which reportedly impacted soil only. The release occurred as a result of an unauthorized release from a former onsite UST, and the release was reported to the lead agency (Stanislaus County) in 1991. The case was granted regulatory closure in 1991. The responsible party is identified as Quality Nut. Based on the regulatory status, this listing is not expected to represent a significant environmental concern.

TABLE 3.8-4: PHASE I ESA REGULATORY DATABASE SUMMARY

DATABASE NAME	*SEARCH RADIUS (MILES)*	*SUBJECT PROPERTY*	*ADJACENT PROPERTIES*	*SITES OF CONCERN*
FEDERAL DATABASES				
Federal NPL or Delisted NPL Site	1.00	N	N	N
Federal CERCLIS Site	0.50	N	N	N
Federal CERCLIS-NFRAP Site	0.50	N	N	N
Federal RCRA CORRACTS Facility	1.00	N	N	N
Federal RCRA TSDF Facility	0.50	N	N	N
Federal RCRA Generators Site (LQG, SQG, CESQG)	0.25	N	N	N
Federal IC/EC Registries	0.50	N	N	N
Federal ERNS Site		N	N	N
STATE, LOCAL, AND TRIBAL DATABASES				
State/Tribal Equivalent NPL	1.00	N	N	N
State/Tribal Equivalent CERCLIS	1.00	N	N	N
State/Tribal Landfill/Solid Waste Disposal Site	0.50	N	N	N
State/Tribal Leaking Storage Tank Site	0.50	Y	N	N
State/Tribal Registered Storage Tank Sites	0.25	N	N	N
State/Tribal Voluntary Cleanup Sites (VCP)	0.50	N	N	N
State/Tribal Spills	0.50	N	N	N
ADDITIONAL ENVIRONMENTAL RECORDS				
Federal Brownfield Sites	0.50	N	N	N
State Brownfield Sites	0.50	N	N	N
EDR MGP	Varies	N	N	N
EDR US Hist Auto Station	Varies	N	N	N
EDR US Hist Cleaners	Varies	N	N	N

SOURCE: PARTNER, INC. 2017.

California Office of Environmental Health Hazard Assessment (OEHHA): No records regarding hazardous substance use, storage or releases, or the presence of USTs and Activity and Use Limitations (AULs) on the Berghill property were on file with the OEHHA.

Stanislaus County Department of Environmental Resources (SCDER): According to records reviewed, the Berghill property formerly operated at least one underground storage tank. The records pertaining to the tank removal are unclear on the capacity. There is reference to a 400 to 500 gallon UST, a 2,000 gallon UST, and a 2,500 gallon UST. However, the overwhelming evidence is that there was one 2,000 gallon UST located to the northwest of the current barn which was removed in 1991. The tank appears to have been installed in the late 1980s, thus was in use for a very short time.

When the tank was removed, slight hydrocarbon odor was detected at approximately 15-feet deep. Soil samples were collected from the tank pit excavation bottoms, and analyzed for the standard suite of hydrocarbons including motor oil, diesel, BTEX, TEPH, and kerosene, with all results coming

back non-detectable except for one location where diesel was found at a concentration of 81.5 ppm. A week later, on April 9, 1991, this area was resampled and retested, and the results were found to non-detectable. A No Further Action letter was prepared for the site dated August 21, 1996.

Stanislaus Consolidated Fire Protection District (SCFPD): As of the date of the Phase 1 ESA (April 2017), Partner has not received a response from the SCFPD for inclusion in the report.

San Joaquin Valley Air Pollution Control District (SJVAPCD): No Permits to Operate (PTO), Notices of Violation (NOV), or Notices to Comply (NTC) or the presence of AULs, dry cleaning machines, or USTs were on file for the Berghill property with the SJVAPCD.

Central Valley Regional Water Quality Control Board (CVRWQCB): According to records reviewed, the Berghill property is listed in the RWQCB's online GeoTracker database as a closed LUST site. No documents were available for review in the online database, and the case was closed in 1991. The leaking tank's contents appears to have impacted the subsurface soil only and Stanislaus County is listed as the lead agency.

Stanislaus County Planning and Community Development Department (SCPCDD): As of the date of this report, Partner has not received a response from the SCPCDD for inclusion in this report. According to records reviewed, the Berghill property is zoned for General Agriculture development by Stanislaus County.

California Geologic Energy Management Division (CalGEM) of the California Department of Conservation: According to CalGEM, no oil or gas wells are located on or adjacent to the Berghill property. In addition, the Project Area and the surrounding areas do not contain identified oil and gas monitoring wells.

Stanislaus County Assessor (SCA): According to records reviewed, the Berghill property is identified by Assessor Parcel Numbers (APNs) 074-001-003; 074-001-016; 074002-001; 074-003-022; 074-003-023; and 074-003-024 and is currently owned by Berghill LLC since 2013. The current residential building was constructed in 1951 and totals approximately 1,868 square feet on an irregularly-shaped, 770 acre lot.

Transportation of Hazardous Materials

The transportation of hazardous materials within the City of Riverbank Planning Area is subject to various federal, state, and local regulations. The following provisions are included in the California Vehicle Code (CVC) and pertain to the transportation of hazardous related materials.

- The Highway Patrol designates the routes in California which are to be used for the transportation of explosives. (Section 31616)
- The CVC applies when the explosives are transported as a delivery service for hire or in quantities in excess of 1,000 pounds. The transportation of explosives in quantities of 1,000 pounds or less, or other than on a public highway, is subject to the California Health and Safety Code. (Section 31601(a))

- It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery of, or the loading of, such materials. (Section 31602(b) and Section 32104(a))
- When transporting explosives through or into a city for which a route has not been designated by the Highway Patrol, drivers must follow routes as may be prescribed or established by local authorities. (Section 31614(a))
- Inhalation hazards and poison gases are subject to additional safeguards. These materials are highly toxic, spread rapidly, and require rapid and widespread evacuation if there is loss of containment or a fire. The Highway Patrol designates through routes to be used for the transportation of inhalation hazards. It may also designate separate through routes for the transportation of inhalation hazards composed of any chemical rocket propellant. (Section 32100 and Section 32102(b))

In addition to area roadways, hazardous materials are routinely transported on Union Pacific Railroad lines that are roughly one-quarter mile north and east of the Project Area boundary. Hazardous materials are transported on these lines. The risk of accidents, and more specifically accidents involving hazardous materials, is relatively low. The U.S. Department of Transportation Federal Railroad Administration found the Union Pacific Railroad Company train accident rate to be 4.18 train accidents per one million train miles traveled, resulting in a less than 0.001% chance of an accident. Risk of a railroad accident containing hazardous materials is considered much lower, as only an average of eight accidents involving hazardous material spills occur annually in California.

The Union Pacific Railroad Company does implement a security plan in compliance with the Department of Transportation Final Rule 49 CFR Part 172 Hazardous Materials (HM 232): Security Requirements for Offerors and Transporters of Hazardous Materials. The plan includes requirements to enhance the security of transported hazardous materials and ensures proper cleanup procedures in the instance of an accidental release.

FIRE HAZARDS

Wild fires are a major hazard in the State of California. Wild fires burn natural vegetation on developed and undeveloped lands and include timber, brush, woodland, and grass fires. While low intensity wild fires have a role in the County's ecosystem, wild fires put human health and safety, structures (e.g., homes, schools, businesses, etc.), air quality, recreation areas, water quality, wildlife habitat and ecosystem health, and forest resources at risk.

Wildland fires in the City of Riverbank occur in areas with extensive vegetation, such as forests and grasslands. Most vegetated areas in the vicinity of Riverbank are irrigated agricultural lands, including pastures, field crops, orchards, and vineyards with a low potential for wildfire. The most significant area of vegetation potentially subject to wildfire is the riparian area along the Stanislaus River, along the northern boundary of the Project Area. The bottom of the river, when dry, also poses a great fire hazard, especially to sections of Riverbank where houses are built along the top of the bluff alongside the river. The Project Area is predominantly under agricultural use. This area has a low fire hazard risk.

According the Fire and Resource Assessment Program of the California Department of Forestry & Fire Protection, the Project Area is not within a Fire Hazard Severity Zone for state or local responsibility areas.

3.8.2 REGULATORY SETTING

FEDERAL

The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the EPA, Department of Labor Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Several laws governing the transport, storage, and use of hazardous materials are governed by these agencies as well as oversight for contaminated sites cleanup. Federal laws and regulations that are applicable to hazards and hazardous materials are presented below.

Resource Conservation and Recovery Act

The 1976 Federal RCRA and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program establishes tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. Owners and operators of USTs had until December 1998 to meet the new tank standards. As of 2001, an estimated 85 percent of USTs were in compliance with the required standards.

Comprehensive Environmental Response, Compensation, and Liability Act

The CERCLA of introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. CERCLA was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline

Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

Federal Railroad Administration

The Federal Railroad Administration (FRA) is responsible for promulgating and enforcing rail safety regulations. These regulations are codified at Title 49 CFR Parts 200–299. The FRA administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the United States' rail transportation system, including shipments transported to and from international organizations.

Occupational Safety and Health Act

The Occupational Safety and Health Administration (OSHA) administers the Occupational Safety and Health Act (29 USC 15), which requires special training of handlers of hazardous materials, notification to employees who work in the vicinity of hazardous materials, and acquisition from the manufacturer of material safety data sheets (MSDS). An MSDS describes the proper use of hazardous materials and is intended to provide workers and emergency personnel with procedures for handling or working with that material. The Occupational Health and Safety Act also requires the training of employees to remediate any hazardous materials accidental releases.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act (HMTA) (49 USC 5101–5127) was enacted in 1975. HMTA's primary objective is to provide adequate protection against risks to life and property inherent in commercial transportation of hazardous materials by improving the regulatory and enforcement authority of the Secretary of Transportation. Hazardous materials, as defined by the Secretary of Transportation are any "particular quantity or form" of a material that "may pose an unreasonable risk to health and safety or property." Among the material designated as hazardous are explosives; radioactive materials; infectious substances; flammable or combustible liquids, solids, or gases; toxic, oxidizing, or corrosive materials; and compressed gases in specified forms and quantities. The regulations cited in the HMTA apply, but are not limited to, a person who transports hazardous materials, designs containers for, or prepares or accepts hazardous materials for transportation. HMTA governs safety aspects, including security, of the transportation of hazardous materials that the Secretary of the DOT considers appropriate. Enforcement of the HMTA is shared by each of the following administrations under delegations from the Secretary of the DOT:

- Research and Special Programs Administration (RSPA) Responsible for container manufacturers, reconditioners, and retesters and shares authority over shippers of hazardous materials.

- Federal Highway Administration (FHWA) enforces all regulations pertaining to motor carriers.
- Federal Railroad Administration (FRA) enforces all regulations pertaining to rail carriers.
- Federal Aviation Administration (FAA) enforces all regulations pertaining to air carriers.
- Coast Guard enforces all regulations pertaining to shipments by water.

Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) of 1986 reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definition clarifications, and technical requirements were added to the statute, including additional enforcement authorities. Title III of SARA authorized the Emergency Planning and Community Right-to-Know Act (EPCRA). The objective of the EPCRA is to: (1) allow state and local planning for chemical emergencies, (2) provide for notification of emergency releases of chemicals, and (3) address communities' right-to-know about toxic and hazardous chemicals. The four major provisions of the EPCRA regulations (40 CFR Parts 350–372) are listed below:

- Emergency Planning (Parts 301–303)
- Emergency Release Notification (Part 304)
- Hazardous Chemical Storage Reporting (Parts 311–312)
- Toxic Chemical Release Inventory (Part 313)

Toxic Substances Control Act

The Toxic Substances Control Act of 1976 (TSCA) (15 USC 2601 et seq. 1976) gives the EPA authority to establish reporting, recordkeeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. TSCA addresses the production, import, use, and disposal of specific chemicals, including PCB, asbestos, radon, and lead-based paint.

National Emissions Standards for Hazardous Air Pollutants

The Federal Clean Air Act (Clean Air Act) (42 USC 7401 et seq. 1970) requires the EPA to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Clean Water Act Section 112, EPA established National Emissions Standards for Hazardous Air Pollutants (NESHAP) to protect the public. Asbestos was one of the first hazardous air pollutants regulated under Section 11240 CFR, Subpart M, Section 61.145. Asbestos is a naturally occurring fibrous material that was historically used in many building materials for fire-proofing and insulation. In general, buildings constructed prior to 1980 have the potential for asbestos-containing materials. The EPA has classified asbestos as a Group A, known human carcinogen.

The California Air Resources Board, under The Asbestos Program, enforces compliance with NESHAP and investigates all related complaints, as specified by the California Health and Safety Code Section 39658(b)(1). Of the 35 air districts in California, 19 do not have an asbestos program in place. The San Joaquin Valley Air Pollution Control District has an Asbestos Program.

Federal Insecticide, Fungicide and Rodenticide Act

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 USC 136 et seq. 1996) provides for federal regulation of pesticide distribution, sale, and use. All pesticides distributed or sold in the United States must be registered (licensed) by EPA. Before EPA registers a pesticide under FIFRA, the applicant must show that, among other things, use of the pesticide according to specifications "will not generally cause unreasonable adverse effects on the environment." FIFRA imposes pesticide-labeling requirements; controls when and under what conditions pesticides can be applied, mixed, stored, loaded or used; specifies when fields can be reentered after pesticide application; and identifies when crops can be harvested. Under FIFRA, registrations and product labeling may restrict uses of pesticides. As a part of the pesticide registration, EPA classifies the product or some uses of the product as "restricted use" if it may cause unreasonable adverse effects even when used as directed on the product labeling. Only certified pesticide applicators may use restricted-use pesticides.

STATE

The primary state agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), Cal-EPA, DTSC, California Department of Transportation (Caltrans), California Highway Patrol (CHP), State Water Resources Control Board, and the California Air Resources Board. Several laws governing the generation, transport, and disposal of hazardous materials are administered by these agencies. State laws and regulations that are applicable to hazards and hazardous materials are presented below.

California Health and Safety Code

Cal-EPA has established rules governing the use of hazardous materials and the management of hazardous wastes. Many of these regulations are embodied in the California Health and Safety Code. The code includes regulations that govern safe drinking water, substances control, land reuse and revitalization, remediation, restoration, and methamphetamine contaminated cleanups.

California Code of Regulations Title 22 and Title 26

The California Code of Regulations (CCR) Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, Cal/EPA established the "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program) which consolidated the six administrative components of hazardous waste and materials into one program.

California Hazardous Substance Account Act

The California equivalent to CERCLA, the Carpenter-Presley-Tanner Hazardous Substance Account Act (California Health and Safety Code, Chapter 6.8), was adopted in 1999. This act requires past and present owners and operators to assume liability for the remediation of hazardous waste sites within California. The regulations also contain the provisions listed below.

- Response authority for releases of hazardous substances, including spills and hazardous waste disposal sites.
- Compensation for medical expenses and lost wages or business income resulting from injuries caused by exposure to releases of hazardous substances.
- Funds for the State to assure payment of its 10% share of the costs mandated pursuant to Section 104(c)(3) of the federal act (42 USC Section 9604(c)(3)).

Similar to the 1996 CERCLA amendments that encourage cleanup of contaminated sites, the California Land Reuse and Revitalization Act of 2004 was codified in the Health and Safety Code, Division 20, Chapter 6.82, Sections 25395.60–25395.105. This chapter encourages the development or redevelopment of urban properties, provides processes that ensure remediation to protect public health, safety, and the environment, and relieves innocent owners, bona fide prospective purchasers, and owners of property adjacent to contaminated sites of liabilities and responsibilities that should be borne by those who caused or contributed to the contamination.

The Health and Safety Code Section 25356.1 requires that the California DTSC prepare or approve remedial action plans for sites where hazardous substances were released to the environment if they are listed as Superfund sites. RWQCBs have the responsibility to make decisions regarding cleanup and abatement goals and objectives for the protection of water quality (Section 24.2.2.9, Water Code). RWQCBs also regulate the disposal of contaminated soil.

California Hazardous Waste Control Law

The California Hazardous Waste Control Law (California Health and Safety Code Chapter 6.5 of Division 20) is the basic hazardous waste statute in California and is administered by DTSC. This law is similar to, but generally more stringent than, RCRA, and applies to a broader range of hazardous wastes, and requires recycling and waste reduction programs. Under this law, DTSC is authorized to administer California's hazardous waste program and implement the federal program in California. Title 22, Division 4.5 contains DTSC's hazardous waste regulations.

Hazardous Waste Program

Generation, transportation, treatment, storage, and disposal of characteristic and listed hazardous wastes are regulated under the Health and Safety Code Sections 25100–25250.28. As part of hazardous waste regulation, Health and Safety Code Sections 25250–25250.28 regulate PCBs in used oil and prohibit used oil recycling or reuse if the oil contains 5 parts per million or greater of PCBs.

Hazardous Materials Release Response Plans and Inventory (Business Plan)

Similar to SARA, the Hazardous Materials Release Response Plans and Inventory (or Hazardous Materials Business Plan) was codified in the Health and Safety Code Division 20, Chapter 6.95, Sections 25500–25520. This code requires an owner or operator of a facility that handles hazardous materials in quantities equal to or greater than 55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of compressed gas, or extremely hazardous substances above the threshold planning

quantity (40 CFR Part 355, Appendix A) to inventory the hazardous materials, develop a site map, develop an emergency plan and implement a training program for employees. This information must be submitted to the statewide information management system (California Environmental Reporting System). There are state and local exemptions to hazardous materials that must be reported, which include, but are not limited to medical gases (oxygen, nitrogen and nitrous oxide) in a medical office. The purpose of the Hazardous Materials Business Plan is to prevent or minimize hazards to public health, safety and the environment from a release of hazardous material(s). Hazardous Materials Business Plans must contain information on the location, type, quantity, and health risks of hazardous materials handled, used, stored, or disposed of, which could be accidentally released into the environment. The CUPA maintains the inventory and emergency contact information submitted by applicable businesses and facility owners and operators in a data management system and provides this information to firefighters, health officials, planners, public safety officers, health care providers, regulatory agencies, and other interested persons who need access to the plans.

California Underground Storage Tank Program

The California Underground Storage Tank Program is designed to: (1) prevent contamination from the improper storage of hazardous substances stored underground, (2) ensure that existing tanks are properly maintained, inspected, tested, and upgraded, and (3) ensure that new USTs meet appropriate standards. The California regulations are codified in the Health and Safety Code, Division 20, Chapter 6.7, Sections 25280–25299.8.

Aboveground Petroleum Storage Act (APSA) of 2007

California adopted a statewide program to determine the amount and type of hazardous substances being stored in aboveground tanks under the Health and Safety Code Division 20, Chapter 6.67, Sections 25270–25270.13. APSA applies to storage tank facilities with aggregate petroleum storage capacities of 1,320 gallons or more and requires development and implementation of a SPCC Plan consistent with 40 CFR Part 112. Facilities must submit annual Tank Facility Statements and, depending on Certified Unified Program Agency (CUPA) requirements, may be required to submit to periodic inspection.

California Solid Waste

Solid waste in California is regulated under Title 14, Division 7 and Title 27, Division 2 of the California Code of Regulations (CCR). These regulations establish minimum standards for the handling and disposal of solid wastes. Both the State Water Board and the California Department of Resources Recycling and Recovery (CalRecycle) have oversight and approval authority over local enforcement agencies that permit and take enforcement action on solid waste management facilities. Public Resources Code (PRC) Sections 43200–43219, 43020, 43020.1, 43021, 43030, 43101, and 43103 govern the local enforcement agencies.

Prior to disposal at a landfill facility, contaminated solids must be properly characterized in accordance with EPA publication SW-846, Test Methods for Evaluating Solid Waste,

Physical/Chemical Methods. Based on the analytical results, material will likely be classified as one of the following:

- Nonhazardous waste;
- Non-RCRA hazardous waste (state regulated);
- RCRA hazardous waste (federally regulated).

Each waste classification has unique requirements for assessment, handling, and disposal. Many options exist for the disposal of contaminated soils including treatment, recycling, and disposal at a permitted facility or landfill. Landfills in California accepting contaminated solids are classified as:

- Class I – Accepts wastes classified as RCRA hazardous by the CCR;
- Class II – Accepts hazardous waste (RCRA or non-RCRA) designated as having a lower risk, or nonhazardous waste that significantly threatens water quality;
- Class III – Accepts nonhazardous waste and inert material.

LOCAL

City of Riverbank General Plan

General Plan hazards goals and policies applicable to the Project are identified below:

GOAL: CIRCULATION ELEMENT

- CIRC-4. Move Freight and Passengers Efficiently.

POLICIES: CIRCULATION ELEMENT

- CIRC-4.1. The City will work with relevant public agencies and the railroad to appropriately regulate the movement of truck traffic and hazardous materials throughout the City.
- CIRC-4.4. The City will support the development and implementation of a quick-response emergency services program for railroad corridors and continue to support the County's Hazardous Materials Team.

GOALS: SAFETY ELEMENT

- SAFE-1. Minimize the Loss of Life and Damage to Property Natural and Human-Caused Hazards.
- SAFE-2. Provide Adequate Access for Emergency Response.

POLICIES: SAFETY ELEMENT

- SAFE-1.1. The City will ensure that approved development projects and public investments are consistent with the information provided in the Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan.

- SAFE-1.2. The City will continue to enforce State of California Building Standards Commission uniform codes, such as the California Building Code and California Fire Code with adopted Fire District amendments.
- SAFE-1.3. The City will encourage the retrofitting of older buildings to current safety standards, and require compliance to recommendations of the fire and law enforcement service providers and the State Building Standards Commission uniform codes in coordination with major remodeling or additions.
- SAFE-1.4. The City will require set backs, ignition resistant building materials, or other measures to reduce exposure to potential wildfires in areas designated for natural open space preservation, in coordination with California Department of Forestry and Fire Protection recommendations and Maintenance of Defensible Space Measures, as appropriate.
- SAFE-1.5. Approved plans, projects, and subdivision requests will ensure adequate fire flow per City and Fire District standards. The installation of automatic fire sprinklers may, at the discretion of the City and the Fire Chief, allow for a reduction in the required fire flow, while still complying with the California Fire Code requirements.
- SAFE-1.8. The City will require that hazardous materials are used, stored, transported, and disposed in a safe manner and in compliance with local, State, and federal safety standards.
- SAFE-1.9. Developments located on farmland or former farmland shall prepare reports that analyze residual agricultural chemicals that may be present onsite. Developments on such sites shall include measures to remove any risk due to hazardous materials for onsite proposed land uses, as well as existing and proposed land uses and users in the vicinity.
- SAFE-1.10. The City will review development requests and require that any airborne, waterborne, windborne, and other hazardous materials issues are fully disclosed, analyzed, and mitigated to ensure against any risk relative to any nearby planned or existing land uses and their users.
- SAFE-2.1. The City will require development and maintenance of a road system that provides adequate access for emergency equipment.
- SAFE-2.4. The City will coordinate with the County Office of Emergency Services to identify evacuation routes and operational plans to be used in case of dam failure, flood disaster, and wildfire for any new growth areas in addition to any updates required to serve the existing developed City.

Certified Unified Program Agency (CUPA)

The California Environmental Protection Agency designates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. Stanislaus County is the designated CUPA in the County for both unincorporated areas and incorporated cities. The Stanislaus County Division of Environmental Resources is responsible for the implementation of statewide programs within its jurisdiction, including: Underground storage of hazardous substances (USTs), Hazardous Materials Business Plan (HMP) requirements, California Accidental Release Prevention (Cal-ARP) program, etc. Implementation of these programs involves permitting, inspecting, providing education/guidance, investigations, and enforcement.

3.8.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact from hazards and hazardous materials if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant with Mitigation)

OPERATIONAL PHASE IMPACTS

The Specific Plan includes a variety of land uses that would ultimately be occupied by residents and businesses. The operational phase of the Project will occur after construction is completed and business operators/employees and residents move in to occupy the structures and facilities on a day-to-day basis.

A large portion of the Specific Plan is intended to be an age-restricted active adult community, while a portion will not be age restricted. Two of the Mixed Use areas also provide an option for residential uses. None of these residential areas would be anticipated to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste.

The Mixed Use areas will include businesses operating as commercial, office, service, or retail use. It is not anticipated that there would be any manufacturing operations in these areas. Each of these uses will likely use a variety of hazardous materials commonly found in urban areas including: paints, cleaners, and cleaning solvents. If handled appropriately, these materials do not pose a significant risk. These facilities will store and use these materials. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by the Stanislaus County Division of Environmental Resources and the Stanislaus Consolidated Fire Protection District. The types of businesses reasonably anticipated to be located in the Mixed Use areas are not anticipated to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste beyond the common materials described above. However, given that future businesses are not defined at this time, the potential for hazardous materials is present. Through compliance with the local policies and implementation of mitigation measures provided in this EIR, the proposed Project would have a ***less than significant*** impact with regards to this environmental issue.

CONSTRUCTION PHASE IMPACTS

Construction activities would occur in phases through the development of the proposed Project. Construction equipment and materials would likely require the use of petroleum-based products (oil, gasoline, diesel fuel), and a variety of chemicals including paints, cleaners, and solvents. The use of these materials at a construction site will pose a reasonable risk of release into the environment if not properly handled, stored, and transported. A release into the environment could pose significant impacts to the health and welfare of people and/or wildlife, and could result in contamination of water, habitat, and countless important resources. The RWQCB requires a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each project that disturbs an area one acre or larger. The SWPPP is required to include project specific best management measures that are designed to control drainage and erosion. Some jurisdictions, including Riverbank, can require a SWPPP for smaller projects.

Like most agricultural and farming operations in the Central Valley, agricultural practices in the area have used agricultural chemicals including pesticides and herbicides as a standard practice. Although no contaminated soils have been identified in the Project Area or the vicinity above applicable levels, residual concentrations of pesticides may be present in soil as a result of historic agricultural application and storage. Continuous spraying of crops over many years can potentially result in a residual buildup of pesticides in farm soils. Of highest concern relative to agrichemicals are chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE).

BERGHILL PROPERTY

Environmental concerns identified in the Phase I ESA for the Berghill property did not qualify as RECs; however, these environmental issues warrant further discussion. The following was identified during the course of the Phase I ESA:

- One active aboveground storage tank (AST) and two or three inactive ASTs were observed on the Berghill property, typical of a large-scale farming operation. As noted in Table 3.8-1, the active and inactive ASTs are located around the Berghill property barn. The active AST stores diesel fuel, is approximately 300 gallons in size, and is equipped with a secondary containment enclosure. No staining, leaks or spills were noted in the vicinity of the ASTs. Based on the nature of the use, the ASTs are not expected to represent a significant environmental concern. No mitigation is required.
- The Berghill property is currently and has historically been used for agricultural purposes (orchards and row crops). As such, agricultural-related chemicals such as pesticides, herbicides, insecticides, and fertilizers have been used and stored onsite. This is a potentially significant impact.
- Due to the age of the Berghill property buildings (pre-1978), there is a potential that asbestos-containing material (ACM) and/or lead-based paint (LBP) are present. Should these materials be replaced, the identified suspect materials would need to be sampled to confirm the presence or absence of asbestos and/or lead prior to any renovation or demolition activities to prevent potential exposure to workers and/or building occupants. This is a potentially significant impact.

CONCLUSIONS

The Phase I ESA for the Berghill Property has revealed evidence of a historical recognized environmental condition and environmental issues in connection with the Project Area. Based on the conclusions of the Phase I ESA, an Operations and Maintenance (O&M) Program should be implemented in order to safely manage the suspect ACMs and LBP located at the subject property. Additionally, existing areas containing above ground storage tanks and storage of farm equipment would require soil sampling to assess the soils in these areas. Further, according to the Phase I ESA, the key site manager indicated there are four onsite agricultural water wells and one domestic well for the onsite residence. Should other groundwater wells be present onsite, the proper well abandonment permit would be obtained.

Areas within the Specific Plan Area, but outside the Berghill property, were part of a CEQA Hazards Assessment, which is limited to database searches, aerial reconnaissance, and literature and map review. While there has been no evidence of an environmental concern in these areas based on the Hazards Assessment, these areas did not include a site investigation or property owner questionnaires/interviews. It is anticipated that there are wells, storage tanks, buildings, and agricultural activities that present environmental concerns that warrant additional site investigation and potentially soil and groundwater testing. A Phase I ESA prepared for these areas would provide the additional site-specific information needed to determine if, and where, soil and groundwater testing may be warranted.

There is no evidence of a REC within the Specific Plan Area. Nevertheless, the Phase I ESA and Hazards Assessment has identified potential environmental concerns that should be evaluated further prior to ground disturbance. Implementation of the following mitigation measures will be required.

MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.6-1**.*

Mitigation Measure 3.8-1: *Prior to approval of a final map on any property in the Specific Plan Area, with the exception of the Berghill property, the Project Applicant shall submit a Phase I ESA for the property. The purpose of the Phase I ESA is to supplement the research and analysis that has already been prepared for this area as part of the CEQA Hazards Assessment which is limited to database searches, aerial reconnaissance, and literature and map review. While no evidence of an environmental concern has been encountered, the Hazards Assessment did not include site investigation or property owner questionnaires/interviews of property outside the Berghill property. The Berghill property is excluded from this mitigation measure because a Phase 1 ESA has already been prepared for this property.*

Mitigation Measure 3.8-2: *Prior to approval of a final map on all properties in the Specific Plan Area, the Project Applicant shall hire a qualified consultant to perform additional soil and site testing. There may be additional areas identified in the Phase I ESAs prepared for areas outside the Berghill Property in accordance with Mitigation Measure 3.8-1; however, the following areas of the Berghill Property have already been deemed to have potentially hazardous conditions present:*

- *The residential units and adjoining structures.*
- *The remnant construction and/or farming materials (i.e. remnant pipes, etc.).*
- *The soils in the area where farming equipment and above ground tanks have been stored.*

The intent of the additional testing is to investigate whether any buildings, facilities, or soils contain hazardous materials, including petroleum products, agrichemical (including pesticides, herbicides, diesel, petrochemicals, etc.), asbestos, etc.

A soil sampling and analysis workplan shall be submitted for approval by the Stanislaus County Department of Environmental Resources prior to the work. The sampling and analysis plan shall meet the requirements of the Department of Toxic Substances Control Interim Guidance for Sampling Agricultural Properties (2008), and the County Department of Environmental Resources Recommended Soil and Groundwater Sampling for Underground Tank Investigations (2013).

If the sampling results indicate the presence of agrichemicals that exceed commercial screening levels, a removal action workplan shall be prepared in coordination with Stanislaus County Department of Environmental Resources. The removal action workplan shall include a detailed engineering plan for conducting the removal action, a description of the onsite contamination, the goals to be achieved by the removal action, and any alternative removal options that were considered and rejected and the basis for that rejection. A no further action letter shall be issued by Stanislaus County Department of Environmental Resources upon completion of the removal action. The removal action shall be deemed complete when the confirmation samples exhibit concentrations below the commercial screening levels, which will be established by the agencies.

If asbestos-containing materials and/or lead are found in buildings, an Operations and Maintenance (O&M) Program shall be implemented in order to safely manage the suspect ACMs and LBP located

at the subject property, and a California Occupational Safety and Health Administration (Cal/OSHA) certified asbestos containing building materials (ACBM) and lead based paint contractor shall be retained to remove the asbestos-containing materials and lead in accordance with EPA and Cal/OSHA standards. In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Cal/OSHA asbestos and lead worker construction standards. The ACBM and lead shall be disposed of properly at an appropriate offsite disposal facility.

Mitigation Measure 3.8-3*: Prior to bringing hazardous materials onsite, the applicant shall submit a Hazardous Materials Business Plan (HMBP) to the Stanislaus County Division of Environmental Resources (CUPA) for review and approval. If during the construction process the applicant or any subcontractors generates hazardous waste, the applicant must register with the CUPA as a generator of hazardous waste, obtain an EPA ID# and accumulate, ship and dispose of the hazardous waste per Health and Safety Code Ch. 6.5. (California Hazardous Waste Control Law).*

Mitigation Measure 3.8-4*: Prior to initiation of any ground disturbance activities within 50 feet of a well, the applicant shall hire a licensed well contractor to obtain a well demolition permit from the City of Riverbank, and properly abandon the onsite wells, pursuant to review and approval of the City Engineer.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation Measure 3.6-1, contained in Section 3.6, Geology and Soils, ensures compliance with existing regulatory requirements to prepare a SWPPP designed to control erosion and the loss of topsoil to the extent practicable using best management practices (BMPs) that the RWQCB has deemed effective in controlling erosion, sedimentation, and runoff during construction activities.

Mitigation Measure 3.8-1 requires the Project applicant for any property in the Specific Plan Area, with the exception of the Berghill property, to submit a Phase I ESA for the property. The purpose of the Phase I ESA is to supplement the research and analysis that has already been prepared for this area as part of the CEQA Hazards Assessment which is limited to database searches, aerial reconnaissance, and literature and map review. The Berghill property is excluded from this mitigation measure because a Phase I ESA has already been prepared for this property.

Mitigation Measure 3.8-2 requires the Project Applicant to hire a qualified consultant to perform additional soil and site testing. There may be additional areas identified in the Phase I ESAs prepared for areas outside the Berghill Property in accordance with Mitigation Measure 3.8-1; however, the following areas of the Berghill Property have already been deemed to have potentially hazardous conditions present:

- The residential units and adjoining structures.
- The remnant construction and/or farming materials (i.e. remnant pipes, etc.).
- The soils in the area where farming equipment and above ground tanks have been stored.

A soil sampling and analysis workplan is also required to be submitted for approval by the Stanislaus County Department of Environmental Resources prior to the work. The measure also includes steps

to take if the sampling results indicate the presence of agrichemicals that exceed commercial screening levels, or if asbestos-containing materials and/or lead are found in buildings.

Further, Mitigation Measure 3.8-3 requires the applicant to submit a Hazardous Materials Business Plan (HMBP) to the Stanislaus County Division of Environmental Resources (CUPA) for review and approval.

Lastly, Mitigation Measure 3.8-4 requires any ground disturbance activities within 50 feet of a well to obtain a well abandonment permit from Stanislaus County Department of Environmental Resources, and properly abandon the onsite wells, pursuant to review and approval of the City Engineer and the Stanislaus County Department of Environmental Resources.

Implementation of the above mitigation measures will ensure that any potential impact is reduced to a ***less than significant*** level**.** The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Impact 3.8-2: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (Less than Significant)

The Specific Plan includes a variety of land uses that would ultimately be occupied by residents and businesses. A large portion of the Specific Plan is intended to be an age-restricted active adult community, while a portion will not be age restricted. Two of the Mixed Use areas also provide an option for residential uses. None of these residential areas would be anticipated to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste.

The Mixed Use areas will include businesses operating as commercial, office, service, or retail use. It is not anticipated that there would be any manufacturing operations in these areas. The types of businesses reasonably anticipated to be located in the Mixed Use areas are not anticipated to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. However, given that future businesses are not defined at this time, the potential for hazardous materials is present.

Through compliance with the local policies and implementation of mitigation measures provided in this EIR, the proposed Project would have a ***less than significant*** impact with regards to this environmental issue.

Impact 3.8-3: Potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. (Less than Significant)

The Phase I ESA on the Berghill property included a site reconnaissance, interviews, historical land use research, and database research. In addition to the Phase I ESA, a Hazards Assessment of the entire Project Area was performed utilizing historical land use research, database research, and

some limited site reconnaissance. The Project Area is not on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Implementation of the proposed Project would have a ***less than significant*** impact with regards to this environmental issue.

Impact 3.8-4: Potential for the Project to result in a safety hazard or excessive noise from an airport for people residing or working in the project area. (Less than Significant)

There are no documented public airports or public use airports within close proximity to the Project Area. Implementation of the proposed Project would have a ***less than significant*** impact with regards to this environmental issue.

Impact 3.8-5: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)

The Office of Emergency Services (OES) maintains an Emergency Operations Plan (EOP) that serves as the official Emergency Plan for Stanislaus County. The EOP is based on the National Incident Management System and its component parts, along with the California Standardized Emergency Management System (SEMS), including the five functional areas of incident or event management, operational coordination, planning, logistical support, and finance/administration support. The EOP serves as the basis for response as well as recovery efforts and activities within the County.

The EOP also identifies Emergency Support Functions (ESFs) that represent core emergency response categories performed by agencies and jurisdictions with primary and supporting responsibilities within Stanislaus County. These may include public and non-government organizations. These Emergency Support Functions are based on the State of California's Emergency Function Annexes (EFs) and the Federal Emergency Support Function Annexes (ESFs).

The County OES also prepared a Hazardous Materials Area Plan (Chapter 4 of Division 2, Title 19, Article 3, §2720-2728 of the California Code of Regulations) and (California Health and Safety Code, Division 20, Chapter 6.95, Section 25503.5) that describes the hazardous materials response system developed to protect public health, prevent environmental damage and ensure proper use and disposal of hazardous materials. The plan establishes effective response capabilities to contain and control releases, establishes oversight of long-term cleanup and mitigation of residual releases, and integrates multi-jurisdiction and agency coordination. This plan is implemented by the Stanislaus County Division of Environmental Resources.

The Stanislaus County Office of Emergency Services also maintains a Hazardous Materials Business Plan (HMBP). The HMBP describes agency roles, strategies and processes for responding to emergencies involving hazardous materials.

In Stanislaus County, all major roads are available for evacuation, depending on the location and type of emergency that arises. The main evacuation route through Riverbank is State Route 108. This roadway is capable of handling heavy truck traffic, as well as traffic from passenger vehicles and would be a primary route for evacuations. The proposed Project does not include any actions that

would impair or physically interfere with any of Stanislaus County's emergency plans or evacuation routes. Future uses in the Project Area will have access to the County resources that establish protocols for safe use, handling and transport of hazardous materials. Construction activities are not expected to result in any unknown significant road closures, traffic detours, or congestion that could hinder the emergency vehicle access or evacuation in the event of an emergency. Implementation of the proposed Project would have a ***less than significant*** impact with regards to this environmental issue.

Impact 3.8-7: Potential to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. (Less than Significant)

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point. The County has areas with an abundance of flashy fuels (i.e. grassland) in the foothill areas of the eastern and western portion of the County. The Project Area is located in an area that is predominately agricultural uses, which is not at a significant risk of wildfire. The proposed Project would have a ***less than significant*** impact with regards to this environmental issue.

This section describes the regulatory setting, regional hydrology and water quality, impacts that are likely to result from project implementation, and measures to reduce potential impacts to water quality. This section is based in part on the following documents, reports and studies: *City of Riverbank General Plan 2005-2025* (City of Riverbank, 2009), *City of Riverbank Draft Environmental Impact Report for the 2005-2025 General Plan Update* (City of Riverbank, 2008)*, City of Riverbank 2015 Urban Water Management Plan (UWMP)* (City of Riverbank, 2016), *City of Riverbank Water Master Plan* (City of Riverbank, 2007), *Water Supply Assessment – River Walk Specific Plan* (West Yost Associates, 2022), *California Water Plan Update 2013* (DWR, 2013), *City of Riverbank Storm Drain System Master Plan* (City of Riverbank, 2008), *California's Groundwater Bulletin 118, San Joaquin Valley Groundwater Basin, Eastern San Joaquin Subbasin* (DWR, 2006), *California's Groundwater* (DWR, 2003), *Custom Soils Report for Stanislaus County, California* (NRCS, 2019), and *Web Soil Survey* (NRCS, 2019).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the Central Valley Flood Protection, Dennis V. Jackman, Annabel and Allen Gammons, the City of Modesto Community & Economic Development Department, Jeani Ferrari, James Gerber, and James & Jami Aggers. Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.9.1 ENVIRONMENTAL SETTING

REGIONAL HYDROLOGY

Stanislaus County is located in the San Joaquin River watershed. The San Joaquin River is about 300 miles long. It begins in the Sierra Nevada Mountain range on California's eastern border. The river runs down the western slope of the Sierra and flows roughly northwest through the Central Valley, to where it meets the Sacramento River at the Sacramento-San Joaquin Delta, a 1,000-square-mile maze of channels and islands that drains more than 40 percent of the state's lands (SJRGA 2013).

Because the Central Valley receives relatively little rainfall (12 to 17 inches a year, falling mostly October through March), snowmelt runoff from the mountains is the main source of fresh water in the San Joaquin River. Over its 300-mile length, the San Joaquin River is fed by many other streams and rivers, most notably the Stanislaus, Tuolumne and Merced rivers.

Most of the surface water in the upper San Joaquin River is stored and diverted at Millerton Lakes' Friant Dam, near Fresno. From Friant Dam, water is pumped north through the Madera Canal and south through the Friant-Kern canal to irrigation districts and other water retailers, which then deliver the water directly to the end users in the southern portion of the watershed.

In the central and northern portions of the watershed, many agricultural and municipal users receive water from irrigation districts, such as the Modesto, Merced, Oakdale, South San Joaquin and Turlock Irrigation Districts. That water is provided through diversions from rivers that are tributary to the San Joaquin, such as the Mokelumne, Stanislaus, Tuolumne and Merced rivers.

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.

Watersheds

The majority of the Project Area is located in the Boscha Lake-Stanislaus River watershed and Miller Lake Watershed. See Figure 3.9-1. A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special-status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

The State of California uses a hierarchical naming and numbering convention to define watershed areas for management purposes. This means that boundaries are defined according to size and topography, with multiple sub-watersheds within larger watersheds. Table 3.9-1 shows the primary watershed classification levels used by the State of California. The second column indicates the approximate size that a watershed area may be within a particular classification level, although variation in size is common.

TABLE 3.9-1. STATE OF CALIFORNIA WATERSHED HIERARCHY NAMING CONVENTION

WATERSHED LEVEL	*APPROXIMATE SQUARE MILES (ACRES)*	*DESCRIPTION*
Hydrologic Region (HR)	12,735 (8,150,000)	Defined by large-scale topographic and geologic considerations. The State of California is divided into ten HRs.
Hydrologic Unit (HU)	672 (430,000)	Defined by surface drainage; may include a major river watershed, groundwater basin, or closed drainage, among others.
Hydrologic Area (HA)	244 (156,000)	Major subdivisions of hydrologic units, such as by major tributaries, groundwater attributes, or stream components.
Hydrologic Sub-Area (HSA)	195 (125,000)	A major segment of an HA with significant geographical characteristics or hydrological homogeneity.

SOURCE: CALIFORNIA DEPARTMENT OF WATER RESOURCES, 2012.

Hydrologic Region

Stanislaus County is located in the San Joaquin River Hydrological Region. The Stanislaus River is a tributary of the San Joaquin River which originates in the high Sierra Nevada and passes through four counties: Stanislaus, San Joaquin, Calaveras, and Tuolumne. The San Joaquin River is the principal river of the region, and all other streams of the region are tributary to it. The Mokelumne River and its tributary the Cosumnes River originate in the central Sierra Nevada, along with the more southerly Stanislaus and Tuolumne rivers. The Merced River flows from the south-central Sierra Nevada and enters the San Joaquin near the City of Newman. The Chowchilla and Fresno rivers also originate in the Sierra south of the Merced River and trend westward toward the San Joaquin

River. Creeks originating in the Coast Range and draining eastward into the San Joaquin River include Del Puerto Creek, Orestimba Creek, and Panoche Creek. Del Puerto Creek enters the San Joaquin near the City of Patterson, and Orestimba Creek enters north of the City of Newman. During flood years, Panoche Creek may enter the San Joaquin River or the Fresno Slough near the town of Mendota. The Kings River is a stream of the Tulare Lake Hydrologic Region, but in flood years it may contribute to the San Joaquin River, flowing northward through the James Bypass and Fresno Slough to enter near the City of Mendota. The Mud, Salt, Berrenda, and Ash sloughs also add to the San Joaquin River, and numerous lesser streams and creeks also enter the system, originating in both the Sierra Nevada and the Coast Range. The entire San Joaquin River system drains northwesterly through the Delta to Suisun Bay (DWR 2013, pg. SJR-5).

The City of Riverbank is located within the San Joaquin Valley and the Modesto Groundwater Subbasin. 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.

Groundwater

The City, and its General Plan area, is located within the Stanislaus and San Joaquin Basins of the Great Central Valley. As detailed in the City's 2020 UWMP, the City's groundwater wells are located in the north-central portion of the Modesto groundwater subbasin and the City is part of the Stanislaus and Tuolumne Rivers Groundwater Basin Association and was a part of the development of the Groundwater Sustainability Plan (GSP) for the Modesto Subbasin in January, 2022. Based on the GSP for the Modesto Subbasin, and various groundwater investigations performed on groundwater availability in the subbasin, including the Self-Certification of Supply Reliability for Three Additional Years of Drought (as required by the State Water Resources Control Board in 2016), the City's groundwater supplies are expected to be highly reliable as is described in further detail below.

Groundwater Production. According to California's Groundwater Bulletin 118, updated in 2004, 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 310,000AF, 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.

Over the historical study period, agricultural production has expanded in the eastern Subbasin where groundwater is the primary source of water supply. Over-pumping in this area has led to water level declines expanding into other areas, which exacerbated conditions during the 2014-2016 drought and caused impacts to both public and domestic water supply wells.

The GSP identifies that the subbasin declining water levels are occurring primarily in the eastern Subbasin – not the central Subbasin where the City is located. The Modesto Subbasin experienced a decline of groundwater in storage of 43,000 AFY during historical conditions, based on an inflow of 440,000 AFY and an outflow of 483,000 AFY. The historical water budget estimates groundwater production of 311,000 AFY; by subtracting the groundwater deficit from the groundwater production, a simplified sustainable yield of 268,000 AFY can be estimated for the historical study period.

The average annual depletion in groundwater for the current and projected conditions are 125,000 AFY and 11,000 AFY, respectively. The average decline of groundwater in storage of 11,000 AFY during projected conditions is significantly less than historical storage depletion of 43,000 AFY. However, this decline occurs at the expense of increased seepage of 86,000 AFY from primarily the Stanislaus and Tuolumne rivers in response to water level declines. This future increase in streamflow depletion as predicted by the model is considered significant and unreasonable within the meaning of that term as defined in the Sustainable Groundwater Management Act (SGMA).

Although the Modesto Subbasin is not at risk of depleting a large percentage of its total volume of groundwater supply, the ongoing depletion due to pumping larger volumes from the groundwater basin than can be reasonably replenished (overdraft conditions) requires mitigation to meet the Subbasin sustainability goal. The chronic lowering of groundwater levels in the Modesto Subbasin is caused primarily by overdraft conditions, illustrating the close relationship between these two indicators.

The historical water budget estimates groundwater production of approximately 311,000 AFY. Given the average depletion of groundwater in storage is 43,000 AFY, a sustainable yield of approximately 268,000 AFY can be estimated for the historical study period. This is a simplistic estimate and does not take into account other important components of the water budget, such as interconnected surface water. Accordingly, this estimate cannot be projected for future conditions in the Subbasin. A more technically defensible sustainable yield estimate was developed for projected future conditions using the California Central Valley Groundwater-Surface Water Simulation Model (C2VSim as described below. It is noted that C2VSim is a computer program that simulates water movement through the linked land surface, groundwater, and surface water flow systems in California's Central Valley. The C2VSim model contains monthly historical stream inflows, surface water diversions, precipitation, land use, and crop acreages.

Two scenarios were simulated using the C2VSim: Scenario 1 includes three urban and municipal projects, and Scenario 2 adds agriculturally based in-lieu and direct recharge projects to Scenario 1. Scenario 1 projects are expected to reduce net groundwater pumping in the Subbasin by 13,700 AFY and will reduce the annual groundwater storage deficit by 1,500 AFY, from 11,000 AFY under

Baseline conditions to 9,500 AFY under Scenario 1. Scenario 2 projects are expected to reduce groundwater pumping by 44,000 AFY and will reduce the annual groundwater storage deficit by 12,400 AFY, resulting in a net positive change in storage of 1,400 AFY.

Under sustainable conditions, the Modesto Subbasin is expected to maintain an average net extraction of 7,000 AFY, compared to a net extraction of 39,000 AFY under projected conditions. This reduction in net extraction is attributed to the reduction of groundwater pumping, which is reduced from 314,000 AFY under the Baseline to 267,000 AFY under sustainable yield, combined with an overall reduction in percolation of agricultural applied water of 14,000 AFY between the two scenarios.

The sustainable yield of the Modesto Subbasin is developed by methodically reducing groundwater demand for the net groundwater extractors (Sustainability Group 2) in the Subbasin. The goal of this groundwater demand reduction is to reduce groundwater pumping to a level that would result in no undesirable results if continued in the long-term.

The presence of undesirable results is evaluated by analyzing sustainability indicators produced by the numerical model, including groundwater in storage, groundwater levels, and interconnected stream systems. It is assumed that by using groundwater levels as proxy for other applicable sustainability indicators (i.e., groundwater quality and land subsidence), the sustainable yield would address all applicable sustainability indicators in the Modesto Subbasin.

This analysis results in a sustainable yield of 267,000 AFY for the Modesto Subbasin. The sustainable yield is based on the current and latest data and information for the subbasin. It is expected that the sustainable yield estimate would be updated for the next GSP update in 2027, as additional data and information become available on the operation of the Subbasin, implementation of projects and management actions, groundwater levels, storage, and quality, and as updates to the tools and technology, such as updates to the integrated numerical model are implemented.

In its entirety, the Modesto Subbasin has an agricultural supply requirement of approximately 513,000 AFY. During the historical calibration period, on average, the Modesto Subbasin's agricultural demand is met through 289,400 AFY of surface water and 223,600 AFY of groundwater production. Additionally, the urban water demand in the Modesto Subbasin has averaged 88,600 AFY, with 26,000 AFY coming from surface water, and 62,600 AFY coming from groundwater.

LOCAL SETTING

The current uses in the Project Area are predominantly agricultural operations, including almond and walnut orchards in the eastern/southeastern portion of the Project Area and cherry orchards and fallow land in the western/central portion of the Project Area. The land in the north/northwestern portion of the Project Area contains fallow land and various trees including Eucalyptus and Willow trees. In the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn

structures. Additionally, a horse ranch exists within the Project Area. The Project Area also includes a commercial nursery business and truck storage area. Additionally, an approximately 150-acre solar farm and the Modesto Rifle Club exist in the southwest portion of the Project Area directly northeast of the intersection of Patterson Road and McHenry Avenue, and the Morris Nursery exists in the southeastern corner of the Project Area directly northwest of the intersection of Patterson Road and Rock Creek Road.

The Project Area topography ranges greatly in elevation from approximately 75 to 159 feet above sea level. The high area to the south and west is approximately 100 to 125 feet above mean sea level and acts as a ridge surrounding the lowland areas which are approximately 75 to 80 feet above mean sea level. There is a steep banked slope that separates the high and low areas. Other than the prominent steep sloping banked areas, the majority of the Project Area contains gentle slopes and is generally characterized as flat.

The Project Area is located outside the northwestern boundary of the City of Riverbank Sphere of Influence (SOI), within the unincorporated area of Stanislaus County. The Project Area is bounded on the north by the Stanislaus River and Stanislaus County Limits, on the south by Patterson Road, on the west by McHenry Avenue, and on the east by single-family residential subdivision. Uses immediately adjacent to the south and southwest of the Project Area include agricultural uses and residential uses, including ranchettes and large estates lots. Uses directly southeast of the Project Area include agricultural uses and a single-family residential subdivision. Other existing uses east of the southerly portion of the Project Area include a single-family residential subdivision and a commercial center. Uses immediately west of the Project Area include active agricultural land and the Del Rio Country Club, including a golf course and associated single-family residential subdivision. Other nearby uses include agricultural uses and residential uses, including ranchettes and large estates lots to the north, northeast, and northwest across the Stanislaus River.

The aquatic features in the Project Area include the Stanislaus River, Modesto Irrigation District facilities, and agricultural ditches (See Figure 3.4-3, Aquatic Resources, in Section 3.4).

Stanislaus River

The Stanislaus River is a tributary of the San Joaquin River. The main stem of the river is 96 miles long, and measured to its furthest headwaters it is about 150 miles long. Originating as three forks in the high Sierra Nevada, the river flows generally southwest through the agricultural San Joaquin Valley to join the San Joaquin River south of Manteca, draining parts of five counties. The Stanislaus River is known for its swift rapids and scenic canyons in the upper reaches, and is heavily used for irrigation, hydroelectricity and domestic water supply.

Modesto Irrigation District

Modesto Irrigation District (MID) provides water supply for agricultural operations in the region and maintains two easements in the Project Area. An MID main canal with a crossing is located approximately 950 feet to the west and approximately 0.45 miles to the east of the intersection of Patterson Road and Coffee Road in the southern portion of the Project Area. The canal enters in the

southwest portion of the Project Area and runs to the northeast eventually curving to exit the Project Area in the southeast. A series of private irrigation ditches distribute the MID water from the on-site canals throughout the Project Area.

Agricultural Ditch

Pre-Levee: The 1914 USGS Topo map shows the Berghill Property as having a network of vernal pools with the topography generally draining to the west toward a marshy area along the bluff and then draining through the marsh to the north where it ultimately drained into the Stanislaus River. This map shows that the levee did not exist at this time, and it is believed that the Berghill Property (below the bluff) served as periodic floodplain for the Stanislaus River. The topography on the 1914 USGS Topo Map suggests that during flood events the Stanislaus River could flow over the southern bank of the river onto the Berghill Property and continue flowing westerly to a low point along the bluff before following the bluff to the north and exiting back into the Stanislaus River. Based on the topography, during very high floods it is likely that the area along the bluff would backup with ponded floodwaters until the high flows of the Stanislaus River subsided allowing the ponded water to flow out to the river. This may be why these maps show the area as marshy.

The 1939 and 1942 USGS Topo Maps do not show the network of vernal pools or the marshy area along the bluff, and instead shows a much more defined drain along the western edge of the Berghill Property following the bluff to the north where it drained into the Stanislaus River. The levee does not exist in these maps. It is not clear if the vernal pools on the Berghill property were filled during this period, or if the 1939 and 1942 maps just did not include those features. It is also not clear if the marshy drainage area was changed to a channelized drain eliminating the marshy habitat, or if the maps just did not include that feature.

Post-Levee: The 1953 USGS Topo Map shows the levee within the Berghill Property on the southside of the Stanislas River. The construction of the levee occurred sometime between 1942 and 1953 and functionally changed the natural hydrology of the Berghill Property. With the construction of the levee, floodwaters from the Stanislaus River would be maintained within the river channel and floodplains on the northside of the levee. The levee prevented floodwaters from the Stanislaus River from entering the Berghill property. Additionally, the levee would have significantly reduced the hydrologic function of the drain such that its watershed became defined as the Berghill Property itself, which was no longer a floodplain of the Stanislaus River. Overall, the volume of water flowing through the drain was limited to precipitation within the Berghill Property. While there is no clear evidence of this on these maps, it is possible that the area was irrigated for agriculture, which would have provided additional flows through the drain beyond just precipitation. This Topo Map does not show the network of vernal pools or the marshy area along the bluff, and instead shows a defined drain along the western edge of the Berghill Property following the bluff to the north similar to the 1939 and 1942 maps. The drain flows under the levee to the property to the north where it drained into the Stanislaus River.

The 1969 USGS Topo Maps shows that the Berghill Property was leveled for agricultural production. This conversion is anticipated to have happened sometime between 1953 when the levee was

constructed and 1969. This Topo Map shows a defined drain along the western edge of the Berghill Property following the bluff to the north similar to the 1939, 1942, and 1953 maps. The drain flows under the levee to the property to the north where it drained into the Stanislaus River.

The 2012, 2015, and 2018 USGS Topo maps continue to show the same agricultural use of the Berghill Property and the location of the drain.

The Post-Levee period consisted of a time of significant changes to the natural hydrology of the Berghill Property. The changes were triggered by the construction of the levee, which prevented Stanislaus River floodwaters from entering the property, and ultimately allowed the property to "dry out" from what was historically a vernally mesic floodplain. It is not known if the vegetation in this area was riparian forest, or vernal pool grassland, or a combination of both habitats before the levee was constructed; however, there is substantial evidence from historical mapping that it was vernally mesic. Once land changed from a floodplain to a dry upland habitat, it led to the leveling of the Berghill Property for agricultural use and ultimately channelization of what was a natural drain into an agricultural ditch intended to drain the agricultural fields.

Today, the agricultural ditch functions to collect agricultural runoff within the watershed, which is limited to the Berghill property. The ditch directs flows to the north along the edge of the bluff, similar to its historical location. There is a pump located at the point where the ditch meets the levee at the northern most point of the Berghill Property. It was noted by Mike Berg (current property owner) that the pump is not currently functional, so all agricultural runoff ponds within the agricultural ditch, functionally making it serve as an agricultural detention basin. When the pump was in operation, the pump would move the agricultural runoff under the levee to the north where it ultimately flowed into the Stanislaus River. It is noted that during the field surveys there was no standing water in the agricultural ditch, including at its lowest point near the pump at the levee.

In addition to the main agricultural ditch described above, there are small agricultural ditches that have also been created along some of the agricultural fields to collect agricultural runoff. The more notable agricultural ditch is located on the southern end of the Berghill property, and has connectively to the main agricultural ditch.

City of Riverbank Groundwater System

The local groundwater basin and City groundwater use are described in the City's 2020 UWMP. A brief description of the groundwater basin and a discussion of historical and projected groundwater pumping are provided below.

WELL SYSTEM

City-Produced Groundwater. The City's sole source of water supply is groundwater, which is water that soaks into the soils from rain or other precipitation and moves downward to fill cracks and other openings in beds of rocks and sand. The City's potable groundwater is delivered through a pressurized distribution system. The City's water supply and distribution system includes nine active wells with pumps, two one million-gallon (MG) storage tanks with booster pump 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's 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 a pumping test performed 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.

Historical Groundwater Pumping. 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). It is estimated that at full build-out, for the entire City Planning 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.

MODESTO SUBBASIN GROUNDWATER YIELD AND USAGE

As noted above, 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.

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

Although the Modesto Subbasin is not at risk of depleting a large percentage of its total volume of groundwater supply, the ongoing depletion due to pumping larger volumes from the groundwater basin than can be reasonably replenished (overdraft conditions) requires mitigation to meet the Subbasin sustainability goal.

The GSP identifies that the subbasin declining water levels are occurring primarily in the eastern Subbasin – not the central Subbasin where the City is located. Groundwater level declines in the

Modesto Subbasin are the combined results of overdraft and multi-year drought conditions. Over-pumping, primarily in the Non-District East Management Area (NDE MA), has contributed to a historical Subbasin overdraft of about 43,000 AFY. Groundwater level declines associated with this overdraft have propagated outside of the NDE MA and affected water levels in adjacent areas to the west where additional water supply wells have been impacted.

In this area, surface water is generally not available, and groundwater has provided the primary supply for the expansion of irrigated agriculture and conversion to crops with higher water demand. Over-pumping has caused lowering of water levels in the Modesto Subbasin. Ongoing overdraft conditions are expected to expand the area of low groundwater levels to the north and south beneath the Stanislaus and Tuolumne rivers, resulting in significant and unreasonable streamflow depletions and impacts to surface water uses.

PAST AND PROJECTED FUTURE GROUNDWATER PUMPING

As noted above, the City's sole source of water supply is groundwater. The City's potable groundwater is delivered through a pressurized distribution system. The City's water supply and distribution system includes nine wells with pumps, two 1 MG peaking reservoirs with booster pump 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's wells range in depth from 240 feet to 830 feet with an average depth of 440 feet. 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 is about 1,100 gpm, while the total available yield from all wells is 9,885 gpm (15,945 AFY if operated continuously). The average specific capacity of the City's wells between 1999 and 2015 was approximately 71 gpm/ft of drawdown. A summary of the well capacities and other well data is shown in Table 3.9-2.

TABLE 3.9-2: CITY OF RIVERBANK WELL DATA

WELL NUMBER	*CONSTRUCTION DATE*	*COMPLETED DEPTH (FT.)*	*WELL CAPACITY (GPM)*	*SPECIFIC CAPACITY RANGE (GPM/FT. DRAWDOWN)*	*ESTIMATED PUMPING LEVEL (FT. BGS) AT MAX. PRODUCTION AND MAX. STATIC DTW*
2	1956	240	660	45 to 47	85
3	1965	420	625	24 to 35	90
4	1972	436	900	Up to 74	75
6	1981	560	1,000	Up to 122	76
7	1990	N/A	1,200	Up to 75	82
8	2001	260	1,200	Unknown	116
9	2004	392	1,300	Up to 50	89
10	2007	830	1,500	--	--
12	2010	602	1,500	Up to 43	120
Total Well Capacity (gpm)			*9,885*	--	--
Firm Well Capacity (gpm)			*8,385*	--	--

NOTES: FT. BGS = FEET BELOW GROUND SURFACE; FIRM WELL CAPACITY IS THE TOTAL WELL CAPACITY WITH THE LARGEST WELL OUT OF SERVICE.
SOURCE: WATER SUPPLY ASSESSMENT (WEST YOST 2022).

In addition to the wells shown in Table 3.9-2, the Project would be required to build a new municipal water well so the available capacity would be even greater than what is shown in the table. The new

well associated with the proposed Project is not included in this table as it is only conceptual in April 2022 as the Water Supply Assessment was being prepared.

As detailed in the 2020 UWMP, the City's groundwater wells are located in the Modesto groundwater subbasin and the City is part of the Stanislaus and Tuolumne Rivers Groundwater Basin Association (STRGBA) and was a part of the development of the Groundwater Sustainability Plan (GSP) for the Modesto Subbasin in 2022. Based on the GSP for the Modesto Subbasin, and various groundwater investigations performed on groundwater availability in the subbasin, including the Self-Certification of Supply Reliability for Three Additional Years of Drought (as required by the State Water Resources Control Board in 2016), the City's groundwater supplies are expected to be highly reliable as described in further detail below and as documented in the City's 2020 UWMP. The STRGBA is also participating in development of the Groundwater Sustainability Plan (GSP) under the Sustainable Groundwater Management Act (SGMA).

GROUNDWATER 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.

Drainage

In general, the City of Riverbank drains from east to west. The City conveys runoff to multiple points along the Stanislaus River and to two MID canals (MID Main and Lateral No. 6). As indicated in the Storm Drain System Master Plan (Nolte, 2007c), the City storm drain system generally consists of the following facilities: collection piping ranging from 12 inches to 54 inches, four detention basins, six storm water pump stations, seven gravity storm water outfalls to the Stanislaus River, and one outfall to a MID Canal. MID and the City have entered into two storm drain discharge agreements authorizing a total of seven discharge points.

Typically, storm water is collected into detention basins and then pumped out within 24 to 48 hours following a storm. Additionally, the City enforces storm drain regulations established by the US EPA and the State of California. Storm drainage from industrial areas within the City is typically disposed of on site with the exception of the closed cannery, which may have drained into the sanitary sewer. Storm drainage from the newer commercial/industrial areas is either detained on site or released to the city system after the peak discharge has passed, or is disposed of on site.

MID distributes a combination of surface water and groundwater via a network of storage facilities, canals, pipelines, pumps, drainage facilities and control structures. Additionally, the MID provides irrigation water to approximately 3,100 agricultural customers who irrigate close to 60,000 acres of permanent and annual crops. Water is transported to area farms via MID's 208 miles of canals and pipelines that operate on a gravity flow system. Surface water from the Tuolumne River flows downhill all the way from the beginning (MID's Upper Main Canal at La Grange) to the end of MID's canal system (several locations where there are drains into the San Joaquin, Stanislaus and Tuolumne rivers).

The MID water conveyance and distribution system was designed to deliver water by gravity flow from La Grange Dam on the east to the San Joaquin River on the west. This gravity conveyance system is energy efficient, but occasionally creates operational outflows to downstream tributaries. While these operational outflows are of relatively high quality and generate no environmental impacts, they are a lost resource to MID. The need for on-farm surface drainage within the District is minimal, as the majority of the land within the irrigation service area is well drained. Much of the land is irrigated with the use of level basins allowing agricultural water users to retain all irrigation water applied on-farm within the parcels' boundaries.

There have been substantial improvements to MID's main and secondary canals since they were built in the early part of the 20th century. In addition to the District facilities, irrigators constructed ditches and pipelines necessary to convey water from the District's canals to the irrigated fields.

Flooding

Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater. As shown in Table 3.9-3 below, portions of the land within the SOI Boundary and Plan Area are currently located in the 500-year flood zone, 100-year flood zone, and Zone X. Zone X by definition indicates an area protected by levees from the 1% annual chance flood. The land in Zone X is found within the highland area and the land within the 100-year flood zone is within the lowland areas adjacent to the river and the western portion of the agricultural ditch. Figure 3.9-2 shows the 100- and 500-year flood boundaries.

TABLE 3.9-3: FLOOD ZONE CLASSIFICATIONS

FLOOD ZONE	*SPECIFIC PLAN AREA - ACRES*	*SOI ONLY - ACRES*	*GRAND TOTAL*
Zone X	288.03	457.16	745.19
100-Year Flood Zone	144.61	49.76	194.37
500-Year Flood Zone	564.54	17.31	581.85
Grand Total	**997.18**	**524.23**	**1,521.41**

SOURCE: FEMA, 2021.

The Urban Flood Risk Reduction (UFRR) Program was created to address State investment priorities as a result of the adoption of the CVFPP. The UFRR Program supports the implementation of regional

flood damage reduction projects for urban areas protected by State Plan of Flood Control (SPFC) facilities in the Sacramento-San Joaquin Valley to achieve at least a 200-year level of flood protection.

SPFC facilities on the Stanislaus River include levees on both banks upstream from the San Joaquin River. Under flood control conditions, upstream reservoir release operations are designed not to exceed a flow of 8,000 cfs (channel capacity) in the lower Stanislaus River from Goodwin Dam downstream to the San Joaquin River. The local interest project levees have been identified by U.S. Army Corps of Engineers (USACE) as adequate to contain this design capacity and are therefore designed to provide 200-year protection for the Stanislaus River, which includes the project area. Furthermore, as noted further within this section, the Plan Area is located outside the 200-year flood protection zone and therefore has adequate flood protection through the year 2025 as required by SB 5.

Dam Failure

The Project Area is located within the dam failure inundation area for New Melones Lake. Potential inundation from the New Melones Lake, Modesto Reservoir, and Don Pedro Reservoir are shown in Figure 3.9-3. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. Larger dams that are higher than 25 feet or with storage capacities over 50 AF of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing, maintaining, and implementing the Local Hazard Mitigation Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

Stormwater Quality

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminates in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500, Section 208) until the mid-1980's. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules which categorize urban runoff as a point source (an identifiable source) subject to National Pollution Discharge Elimination System (NPDES) permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of Federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

303(D) IMPAIRED WATER BODIES

Section 303(d) of the federal Clean Water Act requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

According to the California Water Quality Control Monitoring Council, which is part of California Environmental Protection Agency, Natural Resources, there are many areas within Stanislaus County which are considered Section 303(d) impaired waterbodies. In the regional vicinity of the Project Area, Stanislaus River (Lower) and Dry Creek (tributary to Tuolumne River at Modesto, E Stanislaus County) are listed as Category 5 waterbodies. The criteria for a Category 5 waterbody include a water segment where standards are not met and a TMDL is required, but not yet completed, for at least one of the pollutants being listed for this segment. The Stanislaus River (Lower) assessed waterbody includes 59 acres listed as early as 1998 for Chlorpyrifos (Agriculture, Urban Runoff/Storm Sewers), Diazinon (Agriculture, Urban Runoff/Storm Sewers), Group A Pesticides (Agriculture), Mercury (Resource Extraction), Temperature, water (Source Unknown), and Unknown Toxicity (Source Unknown). The Dry Creek (tributary to Tuolumne River at Modesto, E Stanislaus County) assessed waterbody includes 34 acres listed as early as 2010 for Chlorpyrifos (Agriculture, Urban Runoff/Storm Sewers), Diazinon (Agriculture, Urban Runoff/Storm Sewers), Group A Pesticides (Agriculture), Mercury (Resource Extraction), Temperature, water (Source Unknown), and Unknown Toxicity (Source Unknown).

3.9.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the water resources of the state and nation including the Federal Emergency Management Agency, the US

Environmental Protection Agency, the State Water Resources Board, and the Regional Water Quality Control Board. The following is an overview of the federal, state and local regulations that are applicable to the proposed Project.

FEDERAL AND STATE

Clean Water Act (CWA)

The Clean Water Act (CWA), initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2013-001-DWQ-DWQ).

Federal Emergency Management Agency (FEMA)

Stanislaus County is a participant in the National Flood Insurance Program (NFIP), a federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

200-Year Flood Protection in the Central Valley

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB 5), signed into law on October 10, 2007, created the Central Valley Flood Protection Act of 2008. The following list identifies the requirements of the California Department of Water Resources (DWR) and the Central Valley Flood Protection Board (previously known as the State Reclamation Board) under SB 5:

- To prepare and adopt a Central Valley Flood Protection Plan by 2012.
- To establish 200-year protection as the minimum urban level of flood protection, effective with respect to specific development projects as of 2015 or 2025, as explained below.
    - The DWR is directed to produce preliminary (i.e. Best Available) maps for 100-year and 200-year floodplains protected by project levees, and to make them available

to cities and counties in the Sacramento-San Joaquin Valley ("Central Valley"). (Water Code Section 9610[a]) These best available maps were made available on September 8, 2008, and can be found at the California Department of Water Resources <http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/best_available_maps/>

- Sets deadlines for cities and counties in the Central Valley to amend their general plans and their zoning ordinances to conform to the Plan within 24 months and 36 months (i.e., approximately 2014 and 2015), respectively, of its adoption.
- Obligates Central Valley counties to develop flood emergency plans within 24 months of adoption of the Plan.
- By 2009 the Department of Water Resources ("Department") had to propose amendments to the California Building Standards Code ("Building Code") to protect areas with flood depths anticipated to exceed three feet for the 200-year flood event. SB 5 requires that the Building Code amendments are designed to reduce the risk of flood damage and increase safety.

No later than 2015, but potentially sooner depending on when the Central Valley Flood Protection Plan takes effect, SB 5 prohibits local governments from entering development agreements or approving entitlements or permits, including ministerial permits resulting in construction of a new residence in a flood hazard zone unless one of three conditions are met:

- flood management facilities provide level of protection necessary to withstand 200-year flood event;
- the development agreement or other entitlements include conditions that provide protections necessary to withstand 200-year flood event; or
- the local flood management agency has made adequate progress on construction of a flood protection system that shall result in protections necessary to withstand 200-year flood event by 2025.

Adequate progress is defined as meeting all of the following:

1. The project scope, cost and schedule have been developed;
2. In any given year, at least 90% of the revenues scheduled for that year have been appropriated and expended consistent with the schedule;
3. Construction of critical features is progressing as indicated by the actual expenditure of budget funds;
4. The city or county has not been responsible for any significant delay in completion of the system; and
5. The above information has been provided to the DWR and the Central Valley Flood Protection Board and the local flood management agency shall annually report on the efforts to complete the project.

The Project Area is outside the 200-year flood plain and is not directly affected by this issue.

Central Valley Flood Protection Plan

The Central Valley Flood Protection Plan (CVFPP) is California's strategic blueprint to improve flood risk management in the Central Valley. The first plan was adopted in 2012 and is updated every five years. The plan lays out strategies to:

- Prioritize the State's investment in flood management over the next three decades
- Promote multi-benefit projects
- Integrate and improve ecosystem functions associated with flood risk reduction projects.

Each region in the CVFPP is developing their own Regional Flood Management Program (RFMP) which will develop future projects eligible for Federal and State grants. Stanislaus County and River Partners are co-leads and partners on the next step to develop the RFMP for the Mid-San Joaquin River Segment. The Mid SJR region extends from the Merced-San Joaquin River confluence to the Stanislaus-San Joaquin River confluence. Specifically, any areas protected by the State Plan of Flood Control facilities, and any other areas experiencing flood issues that have a nexus to these facilities, will be eligible for inclusion in the Mid SJR RFMP.

California Water Code

The Federal Clean Water Act places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although this does establish certain guidelines for the States to follow in developing their programs and allows the Environmental Protection Agency to withdraw control from states with inadequate implementation mechanisms.

California’s primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the Regional Water Quality Control Boards (RWQCBs) power to protect water quality, and is the primary vehicle for implementation of California’s responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

> *(a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:*
>
> *(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.*
>
> *(2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.*
>
> *(3) A person operating, or proposing to construct, an injection well.*
>
> *(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.*
>
> *(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.*

Sustainable Groundwater Management Act

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package, composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, that will be 2040. For the remaining high and medium priority basins, 2042 is the deadline.

SGMA defines sustainable groundwater management as the "management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results." The legislation defines "undesirable results" to be any of the following effects caused by groundwater conditions occurring throughout the basin:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply;
- Significant and unreasonable reduction of groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable land subsidence;
- Significant and unreasonable degraded water quality; and

- Surface water depletions that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

The legislation provides for financial and enforcement tools to carry out effective local sustainable groundwater management through formation of groundwater sustainability agencies consisting of local public agencies, water companies regulated by the California Public Utilities Commission, and mutual water companies. The legislation requires that groundwater sustainability agencies (GSAs) within high- and medium priority basins under the California Statewide Groundwater Elevation Monitoring Program subject to critical conditions of overdraft prepare and submit groundwater sustainability plans (GSPs) for the basin by January 31, 2020, and requires groundwater sustainability agencies in all other groundwater basins designated as high- or medium priority basins to prepare and submit a groundwater sustainability plan by January 31, 2022. Following State approval, the basin would thereafter be managed under the groundwater sustainability plan. The legislation does not require adjudicated basins to develop groundwater sustainability plans, but they are required to report their water use.

The key intended outcomes and benefits of the Sustainable Groundwater Management Act are numerous, and include:

- Advancement in understanding and knowledge of the State's groundwater basins and their issues and challenges;
- Establishment of effective local governance to protect and manage groundwater basins;
- Management of regional water resources for regional self-sufficiency and drought resilience;
- Sustainable management of groundwater basins through the actions of Groundwater Sustainability Agencies, utilizing State assistance and intervention only when necessary;
- All groundwater basins in California are operated to maintain adequate protection to support the beneficial uses for the resource;
- Surface water and groundwater are managed as "a Single Resource" to sustain their interconnectivity, provide dry season base flow to interconnected streams, and support and promote long-term aquatic ecosystem health and vitality;
- A statewide framework for local groundwater management planning, including development of sustainable groundwater management best management practices and plans;
- Development of comprehensive and uniform water budgets, groundwater models, and engineering tools for effective management of groundwater basins;
- Improved coordination between land use and groundwater planning; and
- Enforcement actions as needed by the SWRCB to achieve region-by-region sustainable groundwater management in accordance with the 2014 legislation.

As ultimately approved, GSPs must include, among other things, (i) a "general discussion of historical and projected water demands and supplies," (ii) "[m]easurable objectives, as well as interim milestones in increments of five years, to achieve the sustainability goal in the basin within 20 years of the implementation of the plan, and (iii) a "description of how the plan helps meet each objective

and how each objective is intended to achieve the sustainability goal for the basin for long-term beneficial uses of groundwater." (Wat. Code, § 10727.2, subds. (a)(3), (b)(1), and (b)(2).)

To assist in attaining the above outcomes, the California Department of Water Resources (DWR) will provide groundwater sustainability agencies with the technical and financial assistance necessary to sustainably manage their water resources. The benefits of these outcomes include:

- A reliable, safe and sustainable water supply to protect communities, farms, and the environment, and support a stable and growing economy; and
- Elimination of long-term groundwater overdraft, an increase in groundwater storage, avoidance or minimization of subsidence, enhancement of water flows in stream systems, and prevention of future groundwater quality degradation.

In short, SGMA is landmark legislation that, for the first time in the history of California, requires comprehensive groundwater management, with the mandatory goal of bringing all currently overdrafted basins into sustainable conditions by no later than 2040 or 2042, with five-year increments of progress starting in 2025 and 2027.

The Stanislaus and Tuolumne Rivers Groundwater Basin Association became the exclusive GSA for the Modesto Subbasin on May 27, 2017. As detailed in the City's 2020 UWMP, the City's groundwater wells are located in the Modesto groundwater subbasin and the City is part of the Stanislaus and Tuolumne Rivers Groundwater Basin Association and was a part of the development of the GSP for the Modesto Subbasin in 2022.

National Pollutant Discharge Elimination System (NPDES)

NPDES permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase

in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

Water Quality Control Plan for the Sacramento-San Joaquin River Basins

The Water Quality Control Plan for the Sacramento-San Joaquin River Basins (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

REGIONAL

Modesto Subbasin Groundwater Sustainability Plan

The Sustainable Groundwater Management Act (SGMA) requires local Groundwater Sustainability Agencies (GSAs) in high- and medium-priority basins to develop and implement Groundwater Sustainability Plans (GSPs) or to develop Alternatives to GSPs. GSPs provide a roadmap for how groundwater basins will reach long-term sustainability.

Stanislaus & Tuolumne Rivers Groundwater Basin Association Groundwater Sustainability Agency's (STRGBA GSA) adopted the Modesto Subbasin GSP, which began implementation January 31, 2022.

The GSP covers the entire Modesto Subbasin, designated a high-priority basin by the Department of Water Resources (DWR). The Modesto Subbasin covers about 245,253 acres in the northern San Joaquin Valley Groundwater Basin and is bounded by the Stanislaus River on the north, the Tuolumne River on the south, the San Joaquin River on the west and the crystalline basement rocks of the Sierra Nevada Foothills on the east. The STRGBA GSA is composed of seven member agencies

that entered into a Memorandum of Understanding (MOU) to form a GSA and prepare a GSP. Member agencies of the STRGBA GSA include the City of Modesto, City of Oakdale, City of Riverbank, City of Waterford, MID, Oakdale Irrigation District (OID), and Stanislaus County.

Recognizing the importance of water conservation, the UWMPs describe the six Demand Management Measures (DMMs) in compliance with SB X7-7. These DMMs include water waste prevention ordinances, metering, conservation pricing, public education and outreach, programs to assess and manage distribution system real loss, and water conservation program coordination and staffing support. The cities that are within the Modesto Groundwater Basin each implement additional water conservation programs.

As discussed in the GSP, the City of Riverbank has several additional DMMs:

- Water survey programs for single-family residential and multi-family residential customers
- Large landscape conservation programs and incentives
- High efficiency washing machine rebate program
- High efficiency toilet replacement
- Residential plumbing retrofit
- Conservation programs for commercial, industrial and institutional accounts

The GSP also summarizes the relevant Riverbank General Plan policies which pertain to water resources and conservation.

LOCAL

City of Riverbank General Plan

GOALS: COMMUNITY AND CHARACTER DESIGN

- DESIGN-15. Adequate, Safe, Well-Located Public Open Spaces, Parks Facilities, and Access to Features of the Natural Environment.
- DESIGN-19. Water Quality is Protected Throughout the Development Process and Occupation of the Site.

POLICIES: COMMUNITY AND CHARACTER DESIGN

- DESIGN-15.1. The City will identify land to create an open space system that links, parks, greenbelts, wildlife habitats, the Stanislaus River corridor, channels, and other critical areas. Impacts on the environmental functions of critical areas shall be considered in the development of open space system links.
- DESIGN-15.2. The City will require integration in the design of an open space system natural features that also provide flood protection, wildlife habitat, and other environmental enhancements.
- DESIGN-15.4. The City will require and pursue the preservation and enhancement of public access to riverfront recreation / natural areas while protecting sensitive habitats.

- DESIGN-19.1. The City will establish site design criteria for allowing natural hydrological systems to function with minimum or no modification.
- DESIGN-19.2. The City will promote the use of rain gardens, open ditches or swales, and pervious driveways and parking areas in site design to maximize infiltration of storm water and minimize runoff into environmentally critical areas.

GOALS: CONSERVATION AND OPEN SPACE

- CONS-4. Preserve Habitat Associated with the Stanislaus River While Increasing Public Access.
- CONS-5. Preserve the Natural Diversity in the Riverbank Planning Area.
- CONS-6. Maintain or Increase Surface and Groundwater Quality and Supply.

POLICIES: CONSERVATION AND OPEN SPACE

- CONS-4.2. Approved projects, plans, and subdivisions shall provide for collection, conveyance, treatment, detention, and other stormwater management measures in a way that does not decrease water quality or alter hydrology in the Stanislaus River or associated groundwater recharge areas.
- CONS-5.1. Approved projects, plans, and subdivisions shall avoid urban development of the existing Stanislaus River riparian corridor and other habitat that is rare, declining, unique, or supportive of special-status species.
- CONS-6.1. The City will require that waterways, floodplains, watersheds, and groundwater recharge areas are maintained in their natural condition, wherever feasible.
- CONS-6.2. The City will coordinate with appropriate regional, state, and federal agencies to address local sources of groundwater and soil contamination, including underground storage tanks, septic tanks, agriculture, and industrial uses.
- CONS-6.3. Approved projects, plans, and subdivisions in new growth areas shall incorporate natural drainage system design that emphasizes infiltration and decentralized treatment (rather than traditional piped approaches that quickly convey stormwater to large centralized treatment facilities).[1]
- CONS-6.4. The City will encourage the use of permeable surfaces for hardscape. Impervious surfaces such as driveways, streets, and parking lots will be minimized so that land is available for a natural drainage system to absorb stormwater, reduce polluted urban runoff, recharge groundwater, and reduce flooding.
- CONS-6.5. City street standards and parking requirements will balance the needs of transportation with the full range of community planning issues, including water quality, storm drainage, air quality, and other considerations.
- CONS-6.6. 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.

[1] New growth areas are those included in the Riverbank Planning Area and outside of the City's Sphere of Influence as of January 1, 2007.

- CONS-6.7. The City will require mitigation measures, in coordination with the Regional Water Quality Control Board, as a part of approved projects, plans, and subdivisions to address the quality and quantity of urban runoff, including that attributable to soil erosion.

GOAL: SAFETY

- SAFE-1. Minimize the Loss of Life and Damage to Property Natural and Human-Caused Hazards.

POLICIES: SAFETY

- SAFE-1.6. The City will not allow the development of housing in the 100-year floodplain, as determined by the Federal Emergency Management Agency. The City may permit placement of non-residential improvements within the 100-year floodplain under a very limited set of circumstances. Any development project that includes structures or disturbances of natural features within the 100-year floodplain shall prove that the proposal does not:
    - Create danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads, or intended use.
    - Create difficult emergency vehicle access in times of flood.
    - Create a safety hazard due to the unexpected heights, velocity, duration, rate of rise and sediment transport of the flood water expected at the site.
    - Create excessive costs in providing governmental services during and after flood conditions, including maintenance and repair of public facilities.
    - Interfere with the existing waterflow capacity of the floodway.
    - Substantially increase erosion and/or sedimentation.
    - Contribute to the deterioration of any watercourse or the quality of water in any body of water.

City of Riverbank Municipal Code

Chapter 151, Flood Plain Management, of the Municipal Code outlines the City's general food plain provisions, administration procedures, provisions for flood hazard reduction and conditions for variances.

Section 151.04 states that:

> *In order to accomplish its purposes, this subchapter includes regulations to:*
> *(A) Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;*
> *(B) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;*

(C) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;

(D) Control filling, grading, dredging, and other development which may increase flood damage; and

(E) Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

Chapter 151 Flood Plain Management, of the Municipal Code is intended to assist in the protection and enhancement of the water quality of watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Clean Water Act. In addition, this chapter provides for the control and regulation of discharges to the City's Municipal Separate Storm Sewer System (MS4) and receiving waters, through a program of education and enforcement of general and specific prohibitions and requirements.

Chapter 155, Grading, of the Municipal Code establishes grading/clearing performance standards and permit thresholds for all grading/clearing activities.

City of Riverbank Post Construction Standards Plan

The Post-Construction Standards Plan was prepared for the City of Riverbank to guide project proponents and municipal plan checkers through the various site design requirements of the Phase II MS4 Permit. The Plan describes the purpose of the plan; a background summary of the Federal and State regulations; the regional collaborative approach taken by many Central Valley municipalities; an overview of the post-construction site design requirements; and, finally, the roles and responsibilities of the plan checker and project proponent.

Low Impact Development Design and Specifications Manual

The City of Riverbank adopted a Low Impact Development Design and Specifications Manual to assist developers in meeting State and local mandates for storm water drainage. All new construction projects in the City of Riverbank are classified in the Low Impact Development Design and Specifications Manual based on their intended use (i.e., residential, Mixed Use 1 and 2, parking areas, etc.). The following design standards must be implemented for all project classifications:

- Mitigate peak run-off flow rates
- Conserve and create natural areas
- Minimize storm water pollutants of concern
- Protect slopes and channels
- Provide storm drain stenciling and signage
- Properly design outdoor material and trash storage areas
- Provide proof of ongoing BMP practices and maintenance
- Incorporate treatment control BMPs for water quality

City of Riverbank Standard Specifications

The standards of the City of Riverbank include specifications and drawings. All work done in the public rights-of-way within the City of Riverbank shall conform to these standards. Work requiring plans prepared by a registered engineer such as improvements for subdivision, parcel maps, and planned developments shall conform to these standards. Improvement Plan prepared by the Developer are submitted to the Construction Inspector and the City Engineer for approval prior to commencement of any work.

These standards apply to all public storm facilities designed for installation within a public right-of-way or PUE within the City, except where specifically noted in these standards, or as required as part of project approval. All storm drainage facilities installed on private property for private use and ownership are to be designed and constructed in accordance with these standards, as well as the provisions of the Uniform Plumbing Code, as adopted the City.

According to the Riverbank Standard Specifications, storm drainage lines are required to be designed in accordance with acceptable engineering principles and California OSHA standards (legal minimum) and shall conform to City standards, Storm Water Collection facilities shall not be connected to wastewater line except where specifically required by the City Engineer. Industrial waste sources shall not be connected or discharged into a storm water line without a specific discharge permit.

All new storm drain basins within the City of Riverbank shall be designed to contain the runoff from the 50-year, 24-hour storm event. The design High Water Level (HWL) from this event shall be no less than 6 inches below the lowest tributary inlet rim elevation. Volume requirements shall be met assuming no outlet, percolation, or other available disposal of runoff. Storage volume contained in underground piping and horizontal drain systems may be considered the available storage volume calculation.

3.9.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would:
    - Result in substantial erosion or siltation on- or off-site;

  - Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;
  - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
  - Impede or redirect flood flows;
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation;
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

IMPACTS AND MITIGATION

Impact 3.9-1: The proposed Project has the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. (Less than Significant with Mitigation)

According to the United States Environmental Protection Agency, polluted stormwater runoff is a leading cause of impairment to the nearly 40 percent of surveyed U.S. water bodies which do not meet water quality standards. Over land or via storm sewer systems, polluted runoff is discharged, often untreated, directly into local water bodies. Soil erosion is one of the most common sources of polluted stormwater runoff during construction activities. When left uncontrolled, storm water runoff can erode soil and cause sedimentation in waterways, which collectively result in the destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

Mandated by Congress under the Clean Water Act, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the National Pollutant Discharge Elimination System (NPDES) permitting mechanism to require the implementation of controls designed to prevent harmful pollutants, including soil erosion, from being washed by stormwater runoff into local water bodies. The construction activities for the proposed project would be governed by the General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), which states:

> *"…Particular attention must be paid to large, mass graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering disturbed areas*

with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. These erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded…."

General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ) further states that:

"Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed…. Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a Specific Plan Area. Examples include: installing berms and other temporary run-on and runoff diversions…. All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended…."

CONSTRUCTION PHASE

Grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

To ensure that construction activities are covered under General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), projects in California with land disturbance of one-acre or more must prepare a Stormwater Pollution Prevention Plan (SWPPP) containing Best Management Practices (BMPs) to reduce erosion and sediments to meet water quality standards. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP is submitted to the Regional Water Quality Control Board and the City as part of the permitting process. Once submitted, the SWPPP is kept on site and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the City.

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.6-1 ensures compliance with existing regulatory requirements to prepare a SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. The specific controls are subject to the review and approval by the RWQCB and are an existing regulatory requirement. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

OPERATIONAL PHASE

The long-term operations of the proposed Project (all phases) could result in long-term impacts to surface water quality from urban stormwater runoff. The proposed Project would result in increased impervious area at the site as a result of the proposed development. Normal activities in these developed areas include the use of various automotive petroleum products (i.e., oil, grease, and fuel), common household hazardous materials, heavy metals, pesticides, herbicides, fertilizers, and sediment. Within urban areas, these pollutants are generally called nonpoint source pollutants. The pollutant levels vary based on factors such as time between storm events, volume of storm event, type of uses, and density of people. The drainage collection system within the City of Riverbank consists of gravity pipes, retention/detention/surge basins, pump station, force mains, irrigation canals/ditches, and gravity storm water outfalls to the Stanislaus River and to a MID Canal. Typically, storm water is collected into detention basins and then pumped out within 24 to 48 hours following the storm. The final design of all onsite and offsite storm drain infrastructure improvements is subject to the review and approval of the City of Riverbank.

As discussed in Chapter 2.0, development of the proposed Project would include construction of a new storm drainage system, including a drainage collection system, and detention basins. The proposed public storm drainage and water quality system is planned to function independently from surrounding developments. An internal layout of stormwater collection pipes with various sizes, as necessary, will be installed within the Project site. It is noted that the locations of the proposed detention basins are conceptual and will be finalized during the design of Improvement Plans. A system of drainage swales may be included to treat and convey collected stormwater. All on-site storm drainage runoff will be collected through drain inlets in the landscaped areas and catch basins along the streets and within properties, and conveyed via surface swales and underground trunk lines to detention and water quality basins. The conveyance systems and detention basins may include facilities designed to address water quality standards and requirements. Discharge from the basins will be conveyed through controlled flow pumping facilities to existing City of Riverbank main storm drain laterals. The duration of the discharge will comply with the City of Riverbank Standard Specifications. The water quality detention basins will be designed to comply with the City of Riverbank Standards Specifications.

No natural drainage courses exist on site where water can flow naturally into a waterway. Conveyance of the detained storm drainage runoff from the proposed on-site dual use detention

basins may be via either gravity flow drainage lines or pumped to existing realigned and upgraded City and MID laterals. Stormwater quality standards imposed and monitored by the Environmental Protection Agency (EPA) and the SWRCB through the City's NPDES permit require treatment of stormwater runoff prior to its release into natural drainage features or MID and City Laterals. Stormwater quality is an integral part of the City's stormwater management system.

The ongoing operational phase of the proposed Project requires the final discharge of stormwater into the on-site detention basins. The discharge of stormwater must be treated through BMPs prior to its discharge. The City of Riverbank implements best management practices to the extent they are technologically achievable to prevent and reduce pollutants.

Additionally, there are various non-structural and structural stormwater BMPs that can be implemented to reduce water pollution. Non-structural BMPs are typically aimed at prevention of pollution through public education and outreach. Non-structural BMPs include: school educational programs, newsletters, website information, commercial, billboards/advertisements, river cleanups, and storm drain stenciling. Structural BMPS are aimed at the physical collection, filtering, and detaining of stormwater. Structural BMPs include items such as drop inlet filters, vault filters, hydrodynamic separators, surface detention basins, and underground detention facilities.

MITIGATION MEASURE(S)

Mitigation Measure 3.9-1*: The Project applicant shall implement the following nonstructural BMPs that focus on preventing pollutants from entering stormwater:*

- *Pollution Prevention/Good Housekeeping*
    - *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation in each phase of the Project, the Project proponent shall develop a spill response and prevention plan as a component of (1) SWPPPs prepared for construction activities, (2) SWPPPs for facilities subject to the NPDES Stormwater Permit, and (3) spill prevention control and countermeasure plans for qualifying facilities. The spill response and prevention plan shall be implemented during all construction activities.*
    - *Streets and parking lots in all non-residential portions of the Project site shall be swept at least once every two weeks.*
- *Operation and Maintenance (O&M) of Treatment Controls*
    - *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation in each phase of the Project, the Project proponent shall develop an Operation and Maintenance (O&M) Plan for the storm drainage facilities to ensure long-term performance. The O&M plan shall incorporate the manufacturers' recommended maintenance procedures and include (1) provisions for debris removal, (2) guidance for addressing public health or safety issues, and (3) methods and criteria for assessing the efficacy of the storm drainage system. An annual report shall be submitted to the City certifying that maintenance of the facilities was conducted according to the O&M plan.*

Mitigation Measure 3.9-2*: The Project applicant shall implement the following structural BMPs that focus on preventing pollutants from entering stormwater, or alternative BMPs approved by the City of Riverbank. Implementation of BMPs apply to all new development including the right-of-way as appropriate.*

- *Extended Detention Facilities: Extended detention refers to the facilities proposed for the Project site that would detain and temporarily store stormwater runoff to reduce the peak rates of discharge to the storm drainage system. Detention of stormwater allows particles and other pollutants to settle and thereby potentially reduce concentrations and mass loading of contaminants in the discharge.*
- *Grassed Swales: A swale is a vegetated, open channel management practice designed to treat and attenuate stormwater runoff for a specified water quality volume. Stormwater runoff flowing through these channels is treated by being filtered through vegetation in the channel, through a subsoil matrix, and/or through infiltration into the underlying soils. Swales can be used throughout the proposed Project area where feasible in the landscape design to treat parking lot runoff.*
- *Proprietary Devices: There are a variety of commercially available stormwater treatment devices designed to remove contaminants from drainage once flows enter the conveyance systems. StormFilter™ units, or equivalent filtration-type systems, are recommended within the commercial and industrial areas as the main structural BMP for these areas. Bioswales are also recommended for streets and parking areas. Drop inlet filters should also be used to control drainage runoff water quality.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The mitigation measures would ensure that BMPs are implemented during construction and operation to reduce the amount of pollution in stormwater discharged from the Project Area into the on-site MID facilities. The management of water quality through obtaining a General Industrial Stormwater Permit and implementing BMPs is intended to ensure that water quality does not degrade to levels that would violate water quality standards. With implementation of the mitigation measures, the implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.9-2: Project implementation could deplete groundwater supplies or interfere substantially with groundwater recharge. (Less than Significant)

The proposed Project would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

Table 3.9-4 below identifies the soils in the Project Area and the soils infiltration rate. The Project Area has soils with hydrologic ratings of "A", "C", and "D". Group "A" soils have low runoff potential when thoroughly wet, Group "C" soils have moderately high runoff potential when thoroughly wet, and Group "D" soils have high runoff potential when thoroughly wet.

TABLE 3.9-4: SOILS HYDROLOGIC RATING

DESCRIPTION	*SOURCE MATERIAL*	*RATING*
Delhi loamy sand	wind modified material weathered from granitic rock sources	A
Delhi sand	wind modified material weathered from granitic rock sources	A
Foster very fine sand	formed in alluvium from acid igneous rocks	D
Grangeville very fine sandy loam	moderate coarse textured alluvium dominantly from granitic rock sources	D
Greenfield sandy loam	moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources	A
Hanford sandy loam	moderately coarse textured alluvium dominantly from granite	C
Oakdale sandy loam	alluvium derived from granitic rock sources	A
Tujunga loamy sand	alluvium derived from granitic rock sources	A
Columba fine sandy loam	alluvium derived from mixed sources	A

SOURCE: NCRS 2023.

Development of the Project Area with impervious surfaces could reduce rainwater infiltration and groundwater recharge further. The collection of rainwater for those areas of impervious surfaces will be routed into the proposed Project's storm drainage system and eventually flow into the Stanislaus River or other downstream aquatic facilities.

As detailed in the City's 2020 UWMP, the City's groundwater wells are located in the Modesto groundwater subbasin and the City is part of the Stanislaus and Tuolumne Rivers Groundwater Basin Association and was a part of the development of the GSP for the Modesto Subbasin in 2022. Based on the GSP for the Modesto Subbasin, and various groundwater investigations performed on groundwater availability in the subbasin, including the Self-Certification of Supply Reliability for Three Additional Years of Drought (as required by the State Water Resources Control Board in 2016), the City's groundwater supplies are expected to be highly reliable.

According to California's Groundwater Bulletin 118, 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 310,000AF, 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.

The proposed Project would be required to build new municipal water wells to increase capacity of available water. The new wells associated with the Proposed Project are only conceptual as of April 2022 as the WSA was prepared. The proposed wells to be constructed with the RWSP will be sufficient to supply the needs of the proposed Project. The connection to the City system is intended to provide some initial development in advance of constructing a well site, as well as to provide some system redundancy and reliability. However, this does not mean that the proposed Project wells will only supply the proposed Project. There will be some flow from the proposed Project wells that is distributed to the rest of the City system.

As detailed in the 2020 UWMP, the City's groundwater wells are located in the Modesto groundwater subbasin and the City is part of the STRGBA GSA. The Modesto Subbasin GSP accounted for expected population growth in the City of Riverbank to approximately 52,500 by 2025, based on the 2005-2025 General Plan adopted in 2009, which is much higher than the more recent population projections which project a population of only 30,549 by 2040. Even with the large population growth assumed in the GSP, the City's groundwater supplies are expected to be highly reliable for serving a future development such as the Proposed Project. The GSP identifies that the subbasin declining water levels are occurring primarily in the eastern Subbasin – not the central Subbasin where the City is located. Furthermore, many measures and policies are presented in the GSP which to ensure long-term sustainability of the Modesto Subbasin and will be implemented over the coming years. The City's UWMP includes DMMs for water waste prevention ordinances, metering, conservation pricing, public education and outreach, programs to assess and manage distribution system real loss, and water conservation program coordination and staffing support. The cities each implement additional water conservation programs.

Riverbank has several additional DMMs:

- Water survey programs for single-family residential and multi-family residential customers
- Large landscape conservation programs and incentives
- High efficiency washing machine rebate program
- High efficiency toilet replacement
- Residential plumbing retrofit
- Conservation programs for commercial, industrial and institutional accounts

Additionally, as noted in the GSP, each member City, including Riverbank, includes policies within the General Plan to further encourage water conservation and overall water system efficiency.

One of the specific policies mentioned in the GSP that the City of Riverbank will implement, to achieve its goal of adequately supplying quality water to serve existing and future project development needs, is: "new developments shall incorporate water conservation techniques to reduce water demand in new growth areas, including the use of reclaimed water for landscaping and irrigation". While water conservation measures and use of reclaimed water for landscaping and irrigation use, where possible, will help reduce overall demand, even without these measures, the groundwater availability in Riverbank is expected to be adequate to serve the expected demand from the Proposed Project.

While the Project Area's soils have a range of low to high infiltration rates, much of the groundwater recharge in the basin occurs from irrigation followed by precipitation. Precipitation in the region is 13.81 inches, most of which falls between November through April. A portion of this annual rainfall infiltrates the soil and groundwater basin, while a portion is discharged downstream into MID discharge points. Additionally, assuming no recharge, the anticipated groundwater requirements would amount to less than 0.2 percent of the total amount of subbasin groundwater storage and less than 5 percent of the total annual basin recharge.

Much of the Project Area would be maintained as pervious surface. Additionally, the front and back yard areas of the proposed residential uses could maintain groundwater recharge areas. While the proposed Project would reduce the amount of pervious surfaces within the Project Area, much of the site would be converted to impervious surface. This would result in opportunities for groundwater recharge after the Project Area is fully developed.

For the reasons mentioned above, the proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge. As such, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.9-3: The proposed Project would not alter the existing drainage pattern of the site or area, including the alteration of the course of a river or through the addition of impervious surfaces, in a manner which would result in substantial erosion, siltation, surface runoff, flooding, or polluted runoff. (Less than Significant)

Currently, runoff from within the Project Area is either maintained onsite, or collected in a system of MID canals and laterals, agricultural ditches, and roadside ditches. Public storm drain facilities are not currently installed. Planned urbanization of the Project Area would result in changes to land use, natural vegetation, and infiltration characteristics, and would introduce new sources of water pollutants, producing "urban runoff." Pollutants contained within urban runoff may include, but are not limited to, sediment, oxygen-demanding substances (e.g., organic matter), nutrients (primarily nitrogen and phosphorus), heavy metals, bacteria, oil and grease, and toxic chemicals that can degrade receiving waters. Urban runoff pollutants may stem from erosion of disturbed areas, deposition of atmospheric particles derived from automobile or industrial sources, corrosion or decay of building materials, rainfall contact with toxic substances, decomposing plant materials,

animal excrement, and spills of toxic materials on surfaces which receive rainfall and generate runoff. New residential uses within the Project Area may also generate urban runoff from streets, driveways and parking areas. Yard areas may produce fertilizer wastes and/or bacterial contamination from animal excrement. New urban commercial development can generate urban runoff from parking areas, as well as any areas of hazardous materials storage exposed to rainfall.

The City of Riverbank adopted a Low Impact Development Design and Specifications Manual to assist developers in meeting State and local mandates for storm water drainage. The Specific Plan Area is identified as a greenfield/rural residential property in the Low Impact Development Design and Specifications Manual and does not have any other land data available due to it being outside the current city limits.

The storm drain system will be designed consistent with the LID requirements of the City of Riverbank. Storm drainage will be provided to the Plan Area through the installation of a storm drain mains, basins, and pump stations. It is anticipated to utilize MID owned facilities for storm drainage discharge pending an agreement with MID. If discharge agreements with MID cannot not be executed, stormwater will need to be retained within the basins and infiltrated into the subsurface soils by using infiltration trenches, or horizontal drains ("French drains"). Figure 2.0-17 illustrates the preliminary storm drain plan. It is noted that the final location of storm drain mains, basins, and pump stations is subject to change. Boundaries and sizes of watersheds are also subject to change.

Stormwater will be collected through a network of gutters, inlets, and storm drains that will direct storm water to storm water basins constructed within the Specific Plan Area. All stormwater would be pre-treated in accordance with current NPDES requirements, and would be detained prior to discharge into the MID canals or the Stanislaus River. Basins would be capable of storing the 50-year storm volume in accordance with City of Riverbank standards. Each watershed and basin are described below:

- The **North Basin** is designed to serve a 214-acre watershed with two connected basins totaling 6.2 acres combined that have a 24.9 ac-ft capacity. The basin has two alternatives: 1) Infiltration trench (French Drains approx. 4,850 LF, 6'Wx8'D), or 2) Pump Station that would discharge to the Stanislaus River at a flow of 2,365 GPM.
- The **West Basin** is designed to serve a 226-acre watershed with a 7.3-acre basin that has a 28.5 ac-ft capacity. The basin includes a Pump Station that would discharge to the MID Main Canal at a flow of 2,583 GPM.
- The **East Basin** is designed to serve a 231-acre watershed with a 5.8-acre basin that has a 25.8 ac-ft capacity. The basin includes a Pump Station that would discharge to the MID Spenker Drain at a flow of 2,335 GPM.
- The **South Basin** is designed to serve a 68-acre watershed with a 1.2-acre basin that has a 6.3 ac-ft capacity. The basin includes a Pump Station that would discharge to the MID Spenker Drain at a flow of 573 GPM.

- **Area A** is a 48-acre watershed with the exact location and design to be determined. This area currently has several homes, a nursery, and agricultural land. The storm drainage design would be needed as the property owners contemplate development of this land.
- **Area B** is a 34-acre watershed with the exact location and design to be determined. This area currently has four large estate homes and a variety of agricultural land. The storm drainage design would be needed as the property owners contemplate development of this land.
- **Area C** is a 15.5-acre watershed with the exact location and design to be determined. This area currently is agricultural land. The storm drainage design would be needed as the property owners contemplate development of this land.
- Note that Areas A, B, and C can provide storm drainage on an individual parcel basis as those parcels develop. Alternatively, they may accommodate storm drainage through a shared basin (or basins) if agreed to by the landowners within those watersheds. The determination to utilized shared basins or individual basins within each parcel will be made at the time of development within those watersheds.

Watershed sizes, boundaries, design volumes, infiltration trench sizes, and discharge flowrates shown herein are preliminary, only, and are subject to change as the project design advances into improvement plans.

The aforementioned basin volumes are based on the runoff from a 50-year, 24-hour storm event, which must be held no less than six inches below the lowest tributary rim elevation. The proposed pump discharge rates are such that they would evacuate the volume from a 10-year design storm over a 48-hour period. This discharge rate is based on the City's requirements for basin evacuation through percolation facilities, though the City has no formal adopted standard for the maximum time to empty a basin via pumped discharge. Infiltration trenches or other percolation facilities may also be utilized as an alternative to pumped discharge to MID facilities.

Stormwater Discharge into MID-owned facilities will be subject to the terms of a Discharge Agreement between the City of Riverbank and MID. This agreement will describe such provisions as discharge flowrate limitations, maintenance obligations, fees, and other provisions.

The agreement will likely also allow the MID to temporarily restrict stormwater discharges to the canals, which may result in longer storage periods for volume within the basins. As mentioned previously, the City has no adopted standard for the maximum time to empty a basin via pump station. Nevertheless, basins will be designed to store the volume from a 50-year design storm at an elevation below the lowest tributary inlet. This requirement should also result in sufficient storage volume to protect building pads from inundation due to higher-runoff storm events, such as the 100-year design storm. Given these considerations, sufficient flood protection will still be provided by the basins in the event that pumped discharge into the MID is temporarily restricted.

The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed stormwater infrastructure, including basins, pump stations, inlets, pipelines, and appurtenant structures upon installation of the improvements.

STORM DRAINAGE SYSTEM – ALTERNATIVE

As an alternative, the project may utilize the 63 acre +/- reserve area as shallow flood storage to contain and infiltrate stormwater runoff from the project. Under this alternative, stormwater from the development would enter the proposed West Basin via concrete inlet structure. The West Basin would be sized to accommodate the "Water Quality Volume" from the tributary watershed. This volume is defined as the runoff resulting from an 85th percentile 24-hour storm event, which is equivalent to a rainfall depth of approximately 0.50 in. This criterion is utilized throughout the State in the design of stormwater quality infrastructure.

Runoff volume that exceeds the capacity of the West Basin would overflow into the adjacent Reserve Area, which would function as an area of shallow flood storage. This approximate 63-acre area would store volumes at relatively shallow depths, and would allow the stored volume to infiltrate into the subsurface soils. A series of relatively short containment berms would be constructed through the Reserve Area to distribute the flood storage more equally across the entire area, as well as to limit the depth of the storage.

The depth of flood storage within the Reserve Area would be limited to approximately 12 to 18 inches. The intent in limiting flood storage depth is to allow for the continued use of the orchard within the Reserve Area. Using the entire Reserve Area as flood storage area as described herein would provide sufficient capacity to accommodate approximately 440 acres of tributary area. This would be equivalent to the combined areas from the West Basin and North Basin watersheds, which may eliminate the need for a separate North Basin. Other equivalent combinations of watersheds and reduction of basin infrastructure may be utilized, as well. Using the Reserve Area for flood storage in this manner may also allow for the elimination or reduction of the proposed West Basin pump station discharge to the MID Main Canal.

Refer to Figures 2.0-18a and 2.0-18b for exhibits showing the proposed Alternative Preliminary Storm Drain Plan and Preliminary Reserve Area Shallow Flooding Plan.

The proposed stormwater collection system functions through storm drainage collection, treatment, detention, and discharge. The exact sizing of the underground piping and basin will be engineered during the preparation of the improvement plans. The Project proposes an on-site drainage system to collect the developed condition runoff in a combination of underground pipes and surface vegetated swales and then discharge the runoff into the three proposed major storm water detention basins. The dual use detention ponds have been designed with surface areas and volumes in compliance with City standards.

With the design and construction of the improvements included in the proposed storm drainage system, the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.9-4 The proposed Project has the potential to, in a flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation. (Less than Significant)

100-YEAR AND 500-YEAR FLOOD HAZARD ZONES

Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

As shown on Figure 3.9-2, portions of the Berghill property are within the 100-year flood zone as delineated by FEMA, notably along the Stanislaus River at the north project boundary and along the agricultural ditch at the western boundary of the Berghill property. Additionally, the majority of the land within the Berghill boundary is currently located in the 500-year flood zone. The remainder of the Project Area is located in Zone X. Zone X by definition indicates an area protected by levees from the 1% annual chance flood. The land in Zone X is found within the highland area in the southwestern and southern portions of the Project Area.

The portions of the Project Area that lie within the 100-year flood zone on the north and east side of the levee are not proposed for development of housing or other human occupied structures. As shown in Figure 2.0-20 in Chapter 2.0, are proposed for Buffer/Greenway/Open Space – River Park. This area functions as riparian habitat along the Stanislaus River, and will remain intact as part of the proposed Project. The River Park area will be passive recreational/park land with a secondary park buffer on the west side of the levee separating the developed areas from the open space areas. This secondary park buffer will include the River Walk Trail system that loops around the entire Specific Plan Area. The River Walk Trail will be outside the 100-year flood plain associated with the Stanislaus River.

The portions of the Project Area that lie within the 100-year flood zone on the west side of the levee are largely associated with the agricultural ditch. A historical review of this area shows that before the levee was built a marshy area (1914), and later a more defined drain (1942), existed below the bluff. This area was periodically flooded when the Stanislaus River would flow over the southern bank of the river onto the Berghill Property and continue flowing westerly to a low point along the bluff before following the bluff to the north and exiting back into the Stanislaus River. The levee was constructed by 1953 and functionally changed the natural hydrology of the Berghill Property, including the true 100-year floodplain. With the construction of the levee, floodwaters from the Stanislaus River are maintained within the river channel and floodplains on the northside of the levee. The levee prevents floodwaters from the Stanislaus River from entering the Berghill property and significantly reduced the hydrologic function of the drain such that its watershed became defined as the Berghill Property itself. Once the land changed from a floodplain to a dry upland habitat, it led to the leveling of the Berghill Property for agricultural use and ultimately

channelization of what was a natural drain into an agricultural ditch intended to drain the agricultural fields.

Today, the agricultural ditch functions to collect agricultural runoff within the watershed, which is limited to the Berghill property. The ditch directs flows to the north along the edge of the bluff, similar to its historical location. There is a pump located at the point where the ditch meets the levee at the northern most point of the Berghill Property. It was noted by Mike Berg (current property owner) that the pump is not currently functional, so all agricultural runoff ponds within the agricultural ditch, functionally making it serve as an agricultural detention basin. When the pump was in operation, the pump would move the agricultural runoff under the levee to the north where it was ultimately flow into the Stanislaus River. It is noted that during the field surveys there was no standing water in the agricultural ditch, including at its lowest point near the pump at the levee.

While FEMA shows the 100-year flood plain in several areas along the agricultural ditch, topographical surveys, hydrology models, and a review of historical aerials shows that this area does not qualify as 100-year flood plain under its current condition. Nevertheless, any development in the areas designated by FEMA as 100-year flood plain would require a Letter of Map Revision (LOMR) before development would be allowed. A LOMR is a document that officially revises a portion of the effective FEMA Flood Insurance Rate Map (FIRM) map according to requirements and procedures outlined in the National Flood Insurance Program (NFIP) regulations. A LOMR allows FEMA to revise flood hazard information on a FIRM map via letter without physically revising and reprinting the entire map panel.

Much of the Berghill property lies within the 500-year floodplain, which is planned to be developed with residential and mixed uses. Local flooding can occur for events larger than a two-year event, but runoff is generally contained in the streets or other breakover easements. Changes to land surfaces in these areas do not trigger map revisions and no flood insurance requirements are imposed on structures in these areas. Improvements to storm drainage facilities are accomplished either as a part of privately funded on-site developments or as a part of the Specific Plan, funded by drainage fees.

The proposed Project would be required to comply with the revised City floodplain regulations contained in Chapter 151 of the City Municipal Code. These standards include the requirement that all new construction and substantial improvements of structures are adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads; that all new construction and substantial improvements of structures are constructed with flood resistant materials and utility equipment resistant to flood damage; use methods and practices that minimize flood damage; and all new construction or substantial improvements of structures be elevated to or above the base flood elevation. Through compliance with these existing regulations, impacts would be ***less than significant***.

SB 5 FLOOD ZONES

As noted previously, both State policy and 2007 State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. SB 5 requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection in order to approve development.

To account for new requirements imposed by SB-5, Stanislaus County and the City of Riverbank have developed flood mapping that delineates 200-year flood extents. Based on SB-5 requirements, the City of Riverbank Safety Element incorporates goals, policies, and implementation measures related to 200-year flood risk and flood protection. The City has completed Zoning Code Amendments to reflect SB-5 requirements.

SPFC facilities on the Stanislaus River include levees on both banks upstream from the San Joaquin River. Under flood control conditions, upstream reservoir release operations are designed not to exceed a flow of 8,000 cfs (channel capacity) in the lower Stanislaus River from Goodwin Dam downstream to the San Joaquin River. The local interest project levees have been identified by U.S. Army Corps of Engineers (USACE) as adequate to contain this design capacity and are therefore designed to provide 200-year protection for the Stanislaus River, which includes the project area.

As shown in Figure 3.9-2, portions of the land within the Project Area are currently located in the 500-year flood zone, 100-year flood zone, and Zone X. The Project Area is outside the 200-year flood plain and therefore, will not be subject to the additional requirements of the central Valley 200-year Flood Zones. However, pursuant to the City Municipal Code, the proposed Project would be required to comply with regulations contained in Chapter 151 City floodplain of the City Municipal Code. Through compliance with these existing regulations, impacts would be ***less than significant***.

TSUNAMIS AND SEICHES

A tsunami is a sea wave caused by a submarine earthquake, landslide, or volcanic eruption. A tsunami can cause catastrophic damage to shallow or exposed shorelines. The Project Area is approximately 63 miles from San Francisco Bay and 83 miles from the coast, which is sufficiently distant to preclude effects from a tsunami.

Seiches are changes or oscillations of water levels within a confined water body. Seiches are caused by fluctuation in the atmosphere, tidal currents or earthquakes. The effect of this phenomenon is a standing wave that would occur when influenced by external causes. The Project Area is not adjacent to any lakes that pose a significant risk from a seiche event.

DAM INUNDATION

The Project Area is subject to flood inundation as a result of dam failure at the New Melones dam. Figure 3.9-3 shows areas that are susceptible to dam inundation. Dam failure is generally a result of

structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. As discussed previously, larger dams that are higher than 25 feet or with storage capacities over 50 AF of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, DSD. The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

Regular inspection by DSD and maintenance by the dam owners ensure that the dams are kept in safe operating condition. As such, failure of these dams is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

While the Project Area is within the New Melones dam inundation area, the proposed Project is not anticipated to result in the exposure of people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, seiche, tsunami, or mudflow. The potential for dam failure is extremely low. Furthermore, the implementation of the proposed project does not exacerbate existing environmental hazards or, in other words, increase the likelihood of dam failure. Therefore, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.9-5: The proposed Project has the potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. (Less than Significant)

WATER QUALITY CONTROL PLAN FOR THE SACRAMENTO-SAN JOAQUIN RIVER BASINS

The Water Quality Control Plan for the Sacramento-San Joaquin River Basins is the guiding documents for water quality in the City of Riverbank. This document includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The preparation and adoption of water quality control plans (Basin Plans) is required by the California Water Code (Section 13240) and supported by the Federal Clean Water Act. Section 303 of the Clean Water Act requires states to adopt water quality standards which "consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses." The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term “water quality standards,” as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The overall design of the drainage infrastructure will be required to comply with the *City of Riverbank Post-Construction Standards Plan* (City of Riverbank, 2014), which ensures development

projects comply with the NPDES permit requirements, facilitates review of applications, and promotes integrated Low Impact Development (LID) design. The *City of Riverbank Post-Construction Standards Plan* also ensures proposed storm drains and infiltration/detention system have been designed to convey the required flow rates and will comply with the flood protection and storm water quality requirements of the City of Riverbank and Stanislaus County.

As discussed in Impacts 3.9-1, impacts related to water quality during construction and operation would be less-than-significant with implementation of the Mitigation Measure 3.9-1. Mitigation Measure 3.9-1 requires the preparation of a SWPPP, and structural BMPs to effectively reduce pollutants from stormwater leaving the site. This would ensure that stormwater runoff does not adversely increase pollutant levels. Additionally, Mitigation 3.9-2 requires the Project applicant to demonstrate compliance, through its grading plans, erosion control plan, and SWWP, with all requirements of the City's Storm Water Management and Discharge Control (Chapter 53 of the Code) and Grading Ordinance (Chapter 155 of the Code). Chapter 53 of the Code (*Storm Water Management and Discharge Control*) was adopted pursuant to the Federal Water Pollution Control Act and is to protect and improve water quality of receiving waters, as well as reduce the adverse effects of polluted runoff discharges on waters of the state. Section 53.06, Chapter 53 of the Code regulates stormwater and prohibit non-stormwater discharges except where regulated by an NPDES permit.

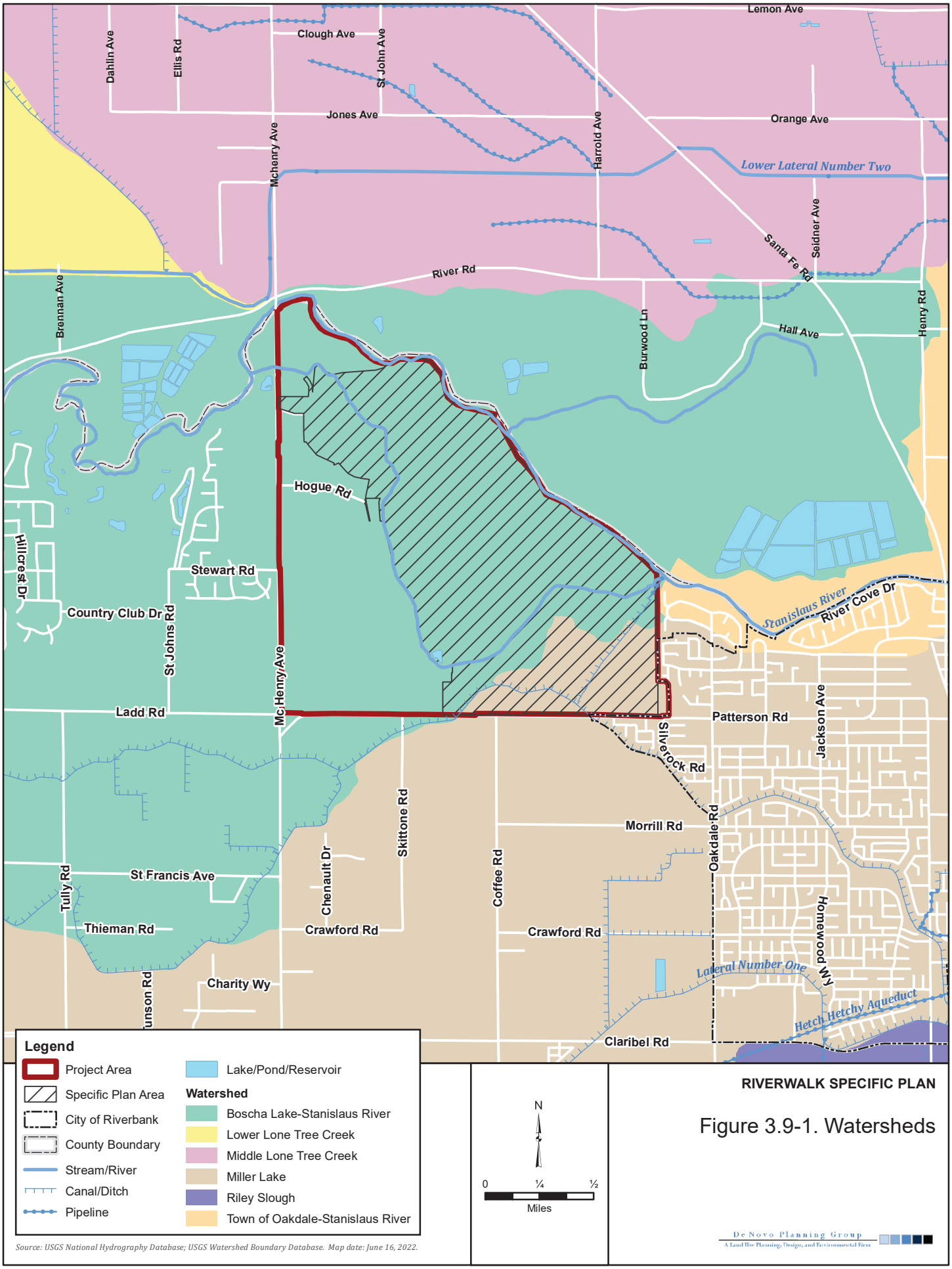
GROUNDWATER SUSTAINABILITY PLAN

As mentioned above, the STRGBA GSA is composed of seven member agencies that entered into a MOU to form a GSA and prepare a GSP. Member agencies of the STRGBA GSA include the City of Riverbank. The GSP covers the entire Modesto Subbasin, designated a high-priority basin by the DWR. The Modesto Subbasin relies on two primary sources of water supply – surface water from the Stanislaus and Tuolumne rivers and groundwater pumped from the Subbasin.

As discussed in Impact 3.9-2, the Project would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. The Water Supply Assessment for the proposed Project concluded that the existing near-term and long-term reliable supplies of surface water supplies and indigenous groundwater supplies can deliver a sustainable reliable water supply to meet existing and foreseeable water demands without impacting environmental values and/or impacting the current stabilization of the groundwater basin.

CONCLUSION

Overall, implementation of the proposed Project would not conflict with the Basin Plan or the IRGMP. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.



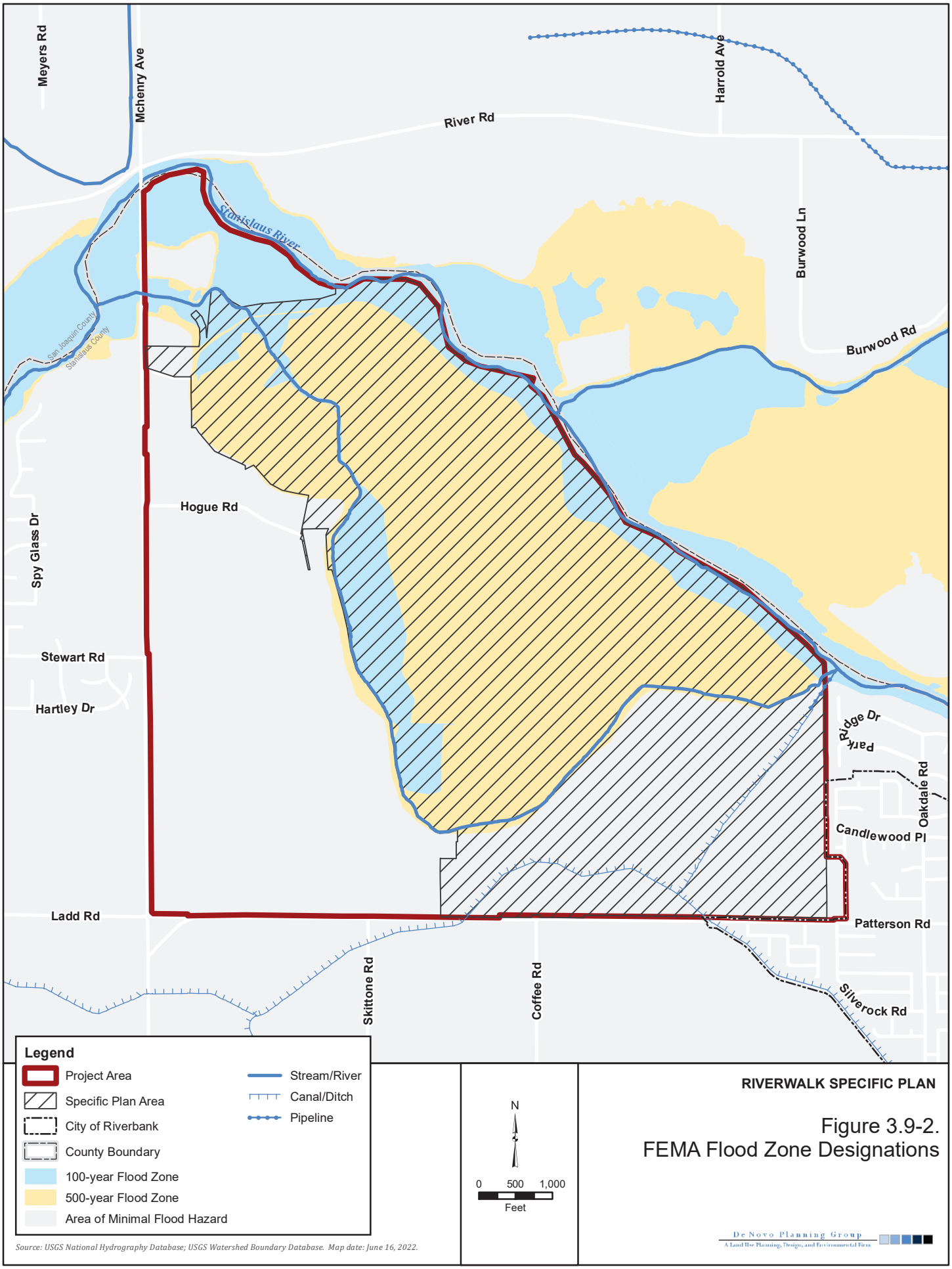
Source: USGS National Hydrography Database; USGS Watershed Boundary Database. Map date: June 16, 2022.

RIVERWALK SPECIFIC PLAN

Figure 3.9-1. Watersheds

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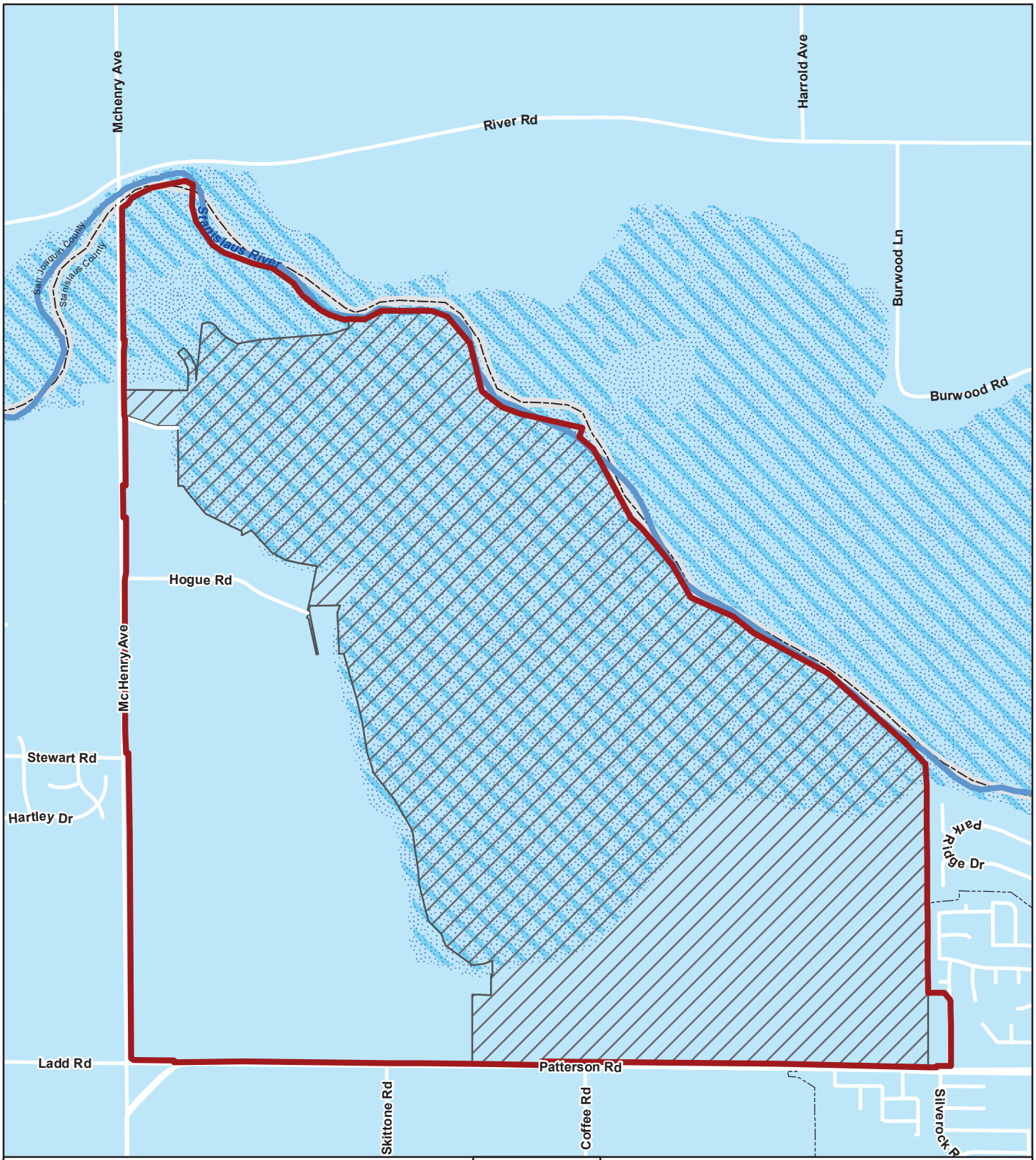
Source: USGS National Hydrography Database; USGS Watershed Boundary Database. Map date: June 16, 2022.

RIVERWALK SPECIFIC PLAN

Figure 3.9-2.
FEMA Flood Zone Designations

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Mchenry Ave
River Rd
Harrold Ave
Burwood Ln
Burwood Rd
San Joaquin County
Stanislaus County
Stanislaus River
Hogue Rd
McHenry Ave
Stewart Rd
Hartley Dr
Ridge Dr
Ladd Rd
Patterson Rd
Skittone Rd
Coffee Rd
Legend
Project Area
Specific Plan Area
Incorporated Area
County Boundary
New Melones Dam Inundation Area
Relief Dam Inundation Area
Tulloch Dam Inundation Area
N
0
500
1,000
Feet
Sources: Stanislaus County GIS; Cal OES; DWR. Map date: June 16, 2022.
RIVERWALK SPECIFIC PLAN
Figure 3.9-3. Dam Inundation Map
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This section describes the existing land uses in the Project Area and in the surrounding area, describes the applicable land use regulations, and evaluates the environmental effects of implementation of the proposed Project related to land use, population, and housing. Information in this section is based on information provided in the Project materials, site surveys conducted by De Novo Planning Group in 2019-2023, and the following reference documents: *City of Riverbank General Plan 2005-2025* (City of Riverbank, 2009), the *City of Riverbank Draft Environmental Impact Report for the 2005-2025 General Plan Update* (City of Riverbank, 2008), the City of Riverbank Code of Ordinances, Chapter 153 - Zoning (City of Riverbank, 2016), and the *Stanislaus County General Plan 2015* (County of Stanislaus, 2016).

Comments received during the NOP scoping process related to this environmental topic included comments related to Stanislaus Local Agency Formation Commission (LAFCO) policies. Full comments received during the NOP process are included within Appendix A.

3.10.1 ENVIRONMENTAL SETTING

EXISTING PHYSICAL ENVIRONMENT

The City of Riverbank is located in northern Stanislaus County, approximately 7.5 miles northeast of Modesto and 16.2 miles southeast of Manteca. State Route (SR) 108 travels through Riverbank near the northern edge of the City, and the City is located along the southern bank of the Stanislaus River. Riverbank occupies approximately 2,500 acres of land (3.8 square miles).

Project Area

The proposed Project is located in the unincorporated area of Stanislaus County and adjacent to the City of Riverbank, north of Patterson Road/State Route (SR) 108, east of McHenry Avenue, and approximately two miles northwest of downtown Riverbank. Figures 2.0-1 shows the Project's regional location and vicinity.

The proposed Project includes a proposed Specific Plan, as well as a Sphere of Influence (SOI) Amendment. The entire Project Area includes approximately 1,522 acres within the unincorporated county adjacent to the City of Riverbank. The River Walk Plan Area includes a 997-acre area to be annexed and subsequently developed. The remaining land within the Project Area is part of the SOI Amendment, and would be held as Reserve land for possible long-range planning at some future time.

The overall Project Area includes several distinct planning boundaries defined below. The following terms are used throughout this DEIR to describe planning area boundaries within the Project Area:

- SOI Expansion Area – includes the proposed Sphere of Influence Amendment and encompasses the entire Project Area.
- Specific Plan Area – includes all lands identified and included within the River Walk Specific Plan. The Specific Plan Area is proposed to be annexed into the City of Riverbank as part of the proposed Project. The Specific Plan Area is a portion of the SOI Expansion Area.

- Berghill Boundary – includes areas within the Specific Plan Area that are controlled by the project applicant.
- Project area – includes the SOI expansion area, including the Specific Plan and Berghill Boundary. The Project Area is the same boundary as the SOI Expansion Area.

Project area boundaries are shown on Figure 2.0-2 (in Section 2.0) and acreages associated with each area are shown in Table 3.10-1. As shown on Figure 2.0-2 and in Table 3.10-1, the proposed Project includes approximately 1,522 acres encompassing: (1) the Specific Plan Area that includes a total of 997 acres, including the Berghill Boundary, and (2) the SOI Expansion Boundary, which makes up the entire Project Area.

TABLE 3.10-1: PLANNING AREA BOUNDARY ACREAGES

PLANNING AREA BOUNDARY	*ACRES (GIS)*
Specific Plan Area	997 acres
Overall Project Area	1,522 acres

The current uses in the Project Area are predominantly agricultural operations, including almond and walnut orchards in the eastern/southeastern portion of the Project Area and cherry orchards and fallow land in the western/central portion of the Project Area. The land in the north/northwestern portion of the Project Area contains fallow land and various trees including Eucalyptus and Willow trees. In the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. Additionally, a horse ranch exists within the Project Area. The Project Area also includes a commercial nursery business and truck storage area. Additionally, an approximately 150-acre solar farm and the Modesto Rifle Club exist in the southwest portion of the Project Area directly northeast of the intersection of Patterson Road and McHenry Avenue, and the Morris Nursery exists in the southeastern corner of the Project Area directly northwest of the intersection of Patterson Road and Rock Creek Road.

The Modesto Irrigation District (MID) provides the water supply for the existing agricultural uses and maintains two easements in the Project Area. A MID main canal with a crossing is located approximately 950 feet to the west and approximately 0.45 miles to the east of the intersection of Patterson Road and Coffee Road in the southern portion of the Project Area. The canal enters in the southwest portion of the Project Area and runs to the northeast eventually curving to exit the Project Area in the southeast. A series of private irrigation ditches and pipes distribute the MID water from the on-site canals throughout the Project Area for agricultural use.

Assessed uses as identified by the County Assessor include predominantly agricultural uses, with limited areas assessed by the County Assessor as single family residential, commercial, office and other miscellaneous uses.

Surrounding Land Uses

The Project Area is located outside the northwestern boundary of the City of Riverbank Sphere of Influence (SOI), within the unincorporated area of Stanislaus County. The Project Area is bounded on the north by the Stanislaus River and Stanislaus County Limits, on the south by Patterson Road, on the west by McHenry Avenue, and on the east by single-family residential subdivisions, one of which is within the city limits and the other is to the north within the unincorporated county. Uses immediately adjacent to the south and southwest of the Project Area include agricultural uses and residential uses, including ranchettes and large estates lots. Uses directly southeast of the Project Area include agricultural uses and a single-family residential subdivision. Other existing uses east of the southerly portion of the Project Area include a single-family residential subdivision and a commercial center. Uses immediately west of the Project Area include active agricultural land and the Del Rio Country Club, including a golf course and associated single-family residential subdivision. Other nearby uses include agricultural uses and residential uses, including ranchettes and large estates lots to the north, northeast, and northwest across the Stanislaus River.

DEMOGRAPHICS

Population Trends

The City experienced a population increase from 2005 to 2010 of 2,692 persons (13.5%) as shown in Table 3.10-2. During the period from 2010 to 2020, population continued to increase (10.8%) in the City, resulting in a total population of 25,133 in 2020.

TABLE 3.10-2: POPULATION GROWTH

YEAR	*POPULATION*	*CHANGE*	*PERCENT CHANGE*
2005	19,986	--	--
2010	22,678	2,692	13.5%
2020	25,133	2,455	10.8%

SOURCES: RIVERBANK HOUSING ELEMENT 2014-2023 AND DOF E-5 2020.

Housing Stock

Table 3.10-3 summarizes the growth of the City's housing stock between 2000 and 2020. The number of housing units increased from 4,698 in 2000 to 7,069 in 2010. This represents 44.4 percent growth in the City's housing stock. The City's housing stock totaled 7,449 units in 2020.

TABLE 3.10-3: HOUSING UNIT GROWTH

YEAR	*HOUSING UNITS*	*CHANGE*	*PERCENT CHANGE*
2000	4,698	--	--
2010	6,785	2,087	44.4%
2020	7,366	581	8.6%

SOURCES: RIVERBANK HOUSING ELEMENT 2014-2023 AND US CENSUS 2000, AND DOF 2020.

Persons Per Dwelling Unit

According to the most recent Department of Finance (DOF) E-5 Population and Housing Estimates (2022), the average number of persons residing in a dwelling unit in the City of Riverbank is 3.33.

3.10.2 REGULATORY SETTING

STATE

California Planning and Zoning Law Government Code Section 65300

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement General Plans. The General Plan is a comprehensive, long-term, and general document that describes plans for the physical development of a jurisdiction and of any land outside its boundaries that, in the jurisdiction's judgment, bears relation to its planning. The General Plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the General Plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the jurisdiction's vision for the area. The General Plan is a long-range document that typically addresses the physical character of an area over a substantial time period, such as 20 years. Although the General Plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow for flexibility in the approach taken to achieve the plan's goals.

A Specific Plan is another planning device that governs a smaller land area than the General Plan, but must be consistent with the overarching General Plan. Specifically, a Specific Plan implements the general plan in a particular geographic area. (Government Code Section 65450.) More generally, a Specific Plan describes the distribution, location, and extent of the land uses and the associated infrastructure, as well as standards governing future development. The specific plan must include a statement of the relationship between it and the general plan. (Government Code Section 65451, subd. [c].) A local jurisdiction's conclusion that a specific plan is consistent with its general plan "carries a strong presumption of regularity." (*Napa Citizens for Honest Government v. County of Napa Bd. of Supervisors* (2001) 91 Cal.App.4th 342, 357.)

Chapter 4 of the State Planning and Zoning Law, entitled Zoning Regulations (California Government Code Section 65800 et seq.), establishes that, in general law cities such as Riverbank (as opposed to charter cities), zoning ordinances, which are laws that define allowable land uses within a specific district, are required to be consistent with the General Plan and any applicable specific plans. When amendments to the General Plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure the land uses designated in the General Plan would also be allowable by the zoning ordinance (Government Code Section 65860, subd. [c]).

Senate Bill 330: The Housing Crisis Act of 2019

The Housing Crisis Act (SB 330) is intended to eliminate some of the most common entitlement impediments to the creation of new housing, including delays in the local permitting process and cities enacting new requirements after an application is complete and undergoing local review. Its provisions expire, however, on January 1, 2025. The discussion below focuses on how the legislation affects housing development projects proposed to cities, as opposed to counties.

As applied to cities, SB 330 does all of the following:

- Requires that cities complete their review and approval processes for housing development within certain time periods;
- Restricts cities from applying new standards, policies, and laws to a development after a project sponsor submits a complete preliminary application;
- Restricts cities from enacting policies, standards or conditions, such as housing moratoria, that would limit housing development;
- Freezes the ability of cities to downzone property planned or zoned for housing; and
- Prevents cities from changing the residential general plan, specific plan, and zoning designation to "a less intensive use" or to reduce the intensity of the designation below what was allowed on January 1, 2018, except where the city "concurrently changes the development standards, policies, and conditions applicable to other parcels within the jurisdiction to ensure that there is no net loss in residential capacity."

Under SB 330, cities are prohibited from conducting more than five hearings in connection with a housing project approval if the project complies with the applicable objective general plan and zoning standards in effect at the time an application is deemed complete.

SB 330 also reduces the amount of time that a city has to approve or disapprove an application under the Permit Streamlining Act from 120 to 90 days for a housing project that requires CEQA review, and from 90 to 60 days if a housing project is proposing at least 49% affordable units.

Additionally, cities are prohibited from disapproving housing development projects for very low, low-, or moderate-income households unless they make certain written findings. Under modifications to a statute that predated SB 330 (Government Code Section 65589.5, subd. [j]), cities are also prohibited from either disapproving a housing project or imposing conditions of approval that lower the density for a housing project that complies with the applicable objective general plan, zoning, and subdivision standards in effect at the time that the application was deemed complete. An exception exists where the city can find that the housing project would have a specific, adverse impact upon the public health or safety unless the project is disapproved or approved upon the condition that the project be developed at a lower density. In this context, a "specific, adverse impact" means a significant, quantifiable, direct, and unavoidable impact, based on objective, identified written public health or safety standards, policies, or conditions as they existed on the date the application was deemed complete.

If a proposed housing project is not consistent with or in compliance with local standards, cities must provide the applicants with written documentation identifying and explaining why the proposed project is not in compliance within specified timeframes. SB 330 also clarifies that a project's use of the State Density Bonus Law shall not constitute a valid basis on which to find that a proposed housing project is inconsistent, not in compliance, or not in conformity with objective standards.

Under SB 330, once a project sponsor submits a preliminary application containing all of the required information, a city is prohibited from applying new ordinances, policies, and standards to a proposed housing project, subject to certain exceptions.

Additionally, SB 330 allows a project applicant, a person who would be eligible to apply for residency in the proposed project, or a housing organization to file a lawsuit if a city requires a housing project to comply with a new ordinance, policy, or standard that was not adopted and in effect when a preliminary application was submitted.

With respect to land where housing is an allowable use, cities are prohibited from enacting changes that would have the following effects:

- Reducing the intensity of land use to levels below what was permitted by the city as of January 1, 2018 by changing the general plan land use designation, specific plan land use designation, or zoning of a parcel;
- Imposing a moratorium or similar restriction or limitation on housing development, unless the California Department of Housing and Community Development (HCD) approves it;
- Imposing or enforcing new design review standards established after January 1, 2020, if the standards are not objective;
- Capping the number of housing units that can be approved or constructed either annually or for some other period of time (unless the limit was approved by voters prior to January 1, 2005 and the city is located in a predominantly agricultural county); and
- Limiting the population of the city or county.

SB 330 places additional requirements on projects that involve the demolition of existing residential units. SB 330 requires that cities may only approve housing developments that include the demolition of residential units if the project will create at least as many residential dwelling units as will be demolished.

For projects involving the demolition of protected units, cities may only give their approval if the projects meet the following criteria:

- The project will replace all existing or demolished protected units (which would count towards meeting inclusionary housing requirements);
- The project will include at least as many residential dwelling units as the greatest number of residential dwelling units that existed on the project site within the last five years;
- Existing residents, if any, are allowed to occupy their units until six months before the start of construction; and
- The developer agrees to provide to the affordable housing rental unit occupants relocation benefits and a right of first refusal for units available in the new housing development at an affordable rent for the household.

Cortese-Knox-Hertzberg Local Government Reorganization Act

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Act) (Government Code §56000 et seq., identifies the responsibilities of LAFCOs. There is a LAFCO in each county, consistent with the requirements of Section 56001 of the Act. Each LAFCO is intended to encourage orderly growth and development essential to the social, fiscal, and economic well-being of the state. Specific

elements established by the Act encourage orderly development patterns by discouraging urban sprawl and preserving open-space and prime agricultural lands.

In order to implement the requirements listed above, LAFCOs have the specific authority to review the following actions:

- Annexations to, or detachment from, cities or districts;
- Formations or dissolution of districts;
- Incorporation or dis-incorporation of cities;
- Consolidation or reorganization or cities and districts;
- Establishment of subsidiary districts; and
- Development of, and amendments to, spheres of influence.

The statutory objectives of a LAFCO are to encourage the orderly formation of local government agencies, preserve agricultural land, and discourage urban sprawl. LAFCOs review proposals for the formation of new local government agencies and regulate changes, such as boundary lines, of existing agencies. A LAFCO is the entity that evaluates proposals for the creation of cities or special districts, as well as proposals to annex additional land to local jurisdictions.

Government Code section 56300 provides that all LAFCOs must exercise their powers "in a manner that encourages and provides planned, well-ordered, efficient urban development patterns with appropriate consideration of preserving open space and agricultural lands within those patterns." Section 56377 states that, in reviewing "proposals" that "could reasonably be expected to induce, facilitate, or lead to the conversion of existing open-space lands to uses other than open-space uses," LAFCOs shall consider the following policies:

- "development or use of land for other than open space uses shall be guided away from existing prime agricultural lands, unless that action would not promote the planned, orderly, efficient development of an area"; and
- "development of existing vacant or nonprime agricultural lands for urban uses within the existing jurisdiction of a local agency or within the sphere of influence of a local agency should be encouraged before any proposal is approved which would allow for or lead to the development of existing open space lands for non-open-space uses which are outside of the existing jurisdiction of the local agency or outside of the existing sphere of influence of the local agency."

Section 56668 provides that, in reviewing a "proposal," a LAFCO shall consider all of the following:

(a) Population and population density; land area and land use; assessed valuation; topography, natural boundaries, and drainage basins; proximity to other populated areas; and the likelihood of significant growth in the area, and in adjacent incorporated and unincorporated areas, during the next 10 years.

(b) The need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; and probable effect of the proposed incorporation, formation, annexation, or

exclusion and of alternative courses of action on the cost and adequacy of services and controls in the area and adjacent areas.

(c) The effect of the proposed action and of alternative actions, on adjacent areas, on mutual social and economic interests, and on the local governmental structure of the county.

(d) The conformity of both the proposal and its anticipated effects with both the adopted LAFCO policies on providing planned, orderly, efficient patterns of urban development, and the policies and priorities in Government Code Section 56377.

(e) The effect of the proposal on maintaining the physical and economic integrity of agricultural lands, as defined by Government Code Section 56016.

(f) The definiteness and certainty of the boundaries of the territory, the nonconformance of proposed boundaries with lines of assessment or ownership, the creation of islands or corridors of unincorporated territory, and other similar matters affecting the proposed boundaries.

(g) A regional transportation plan adopted pursuant to Section 65080.

(h) The proposal's consistency with city or county general and specific plans.

(i) The sphere of influence of any local agency that may be applicable to the proposal being reviewed.

(j) The comments of any affected local agency or other public agency.

(k) The ability of the newly formed or receiving entity to provide the services that are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change.

(l) Timely availability of water supplies adequate for projected needs as specified in Government Code Section 65352.5.

(m) The extent to which the proposal will affect a city or cities and the county in achieving their respective fair shares of the regional housing needs as determined by the appropriate council of governments consistent with Article 10.6 (commencing with Government Code Section 65580) of Chapter 3 of Division 1 of Title 7.

(n) Any information or comments from the landowner or landowners, voters, or residents of the affected territory.

(o) Any information relating to existing land use designations.

(p) The extent to which the proposal will promote environmental justice. As used in this subdivision, "environmental justice" means the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the location of public facilities and the provision of public services, to ensure a healthy

environment for all people such that the effects of pollution are not disproportionately borne by any particular populations or communities.

(q) Information contained in a local hazard mitigation plan, information contained in a safety element of a general plan, and any maps that identify land as a very high fire hazard zone pursuant to Government Code Section 51178 or maps that identify land determined to be in a state responsibility area pursuant to Section 4102 of the Public Resources Code, if it is determined that such information is relevant to the area that is the subject of the proposal.

This EIR will be used by Stanislaus LAFCO during its review of the proposed sphere of influence amendment and annexation, and municipal services review. Stanislaus LAFCO has adopted a comprehensive list of guidelines and policies to implement the statutory directives. These are discussed below.

REGIONAL

Stanislaus Council of Governments

Stanislaus Council of Governments (StanCOG) is an association of local governments from cities within Stanislaus County. The member agencies include City of Ceres, City of Hughson, City of Modesto, City of Newman, City of Oakdale, City of Patterson, City of Riverbank, City of Turlock, City of Waterford, and Stanislaus County. StanCOG is responsible for the preparation of, and updates to, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the region. The RTP/SCS provides a 25-year transportation blueprint for future transportation investments. The 2018 RTP/SCS was adopted by the StanCOG board on August 15, 2018.

REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

The 2018 RTP/SCS is a plan for the Stanislaus region to meet its transportation needs for the 25-year period from 2017 to 2042, considering existing and projected future land use patterns as well as forecasted population and job growth. Understanding that continued growth in the region will occur with or without implementation of the RTP/SCS, it is intended to provide a framework for how to responsibly accommodate this growth such that the Stanislaus region can maintain its quality of life and meet other important local, state, and federal goals and requirements. The Plan serves as a guide for transportation investment and land use across Stanislaus County throughout 2042. It presents a roadmap for accommodating anticipated growth and development and identifies a transportation investment strategy for achieving regional goals that link air quality, land use, and transportation. As the MPO and Regional Transportation Planning Agency (RTPA) for the Stanislaus region, StanCOG updates the RTP every four years.

REGIONAL HOUSING NEEDS PLAN

California General Plan law requires each city and county to have land zoned to accommodate a fair share of the regional housing need. The share is known as the Regional Housing Needs Allocation (RHNA). StanCOG is the lead agency for developing the RHNA that includes Stanislaus County and the City of Riverbank. The latest housing allocation for the City of Riverbank covers the nearly eight-

year period from 2014 through 2023 and consists of 1,280 units (321 very low, 206 low, 217 moderate, and 536 above moderate income). The City is not required to make development occur; however, the City must facilitate housing production by ensuring that land is available and that unnecessary development constraints have been removed. The City prepared and adopted an updated Housing Element to cover the 2013-2021 regional housing needs cycle (adoption date: February, 2016).

LOCAL

City of Riverbank General Plan

As noted above, General Plans are prepared under a mandate from the State of California, which requires each city and county to prepare and adopt a comprehensive, long-term General Plan for its jurisdiction and any adjacent related lands. State law requires General Plans to address seven mandated components: circulation, conservation, housing, land use, noise, open space, and safety. In addition to those components required by State law, the Riverbank General Plan also contains optional elements, including Community Character and Design, Economic Development, Public Facilities and Services, and Air Quality.

The City's General Plan is comprehensive, long-range, and general. The fundamental purpose of this General Plan is to protect and enhance Riverbank's quality of life, and address important local concerns as the City grows and changes. The purpose of the General Plan is to achieve the vision of the community according to a set of guiding principles. Taken together, the General Plan Vision Statement and Guiding Principles describe the purpose and direction of the General Plan.

GENERAL PLAN LAND USE MAP

The City of Riverbank General Plan designates the Project Area as Lower Density Residential (0 to 8 du/net ac), Medium Density Residential (8 to 16 du/net ac), Higher Density Residential (16 or more du/net ac), Mixed-Use, Civic, Park, Multi-Use Recreational/Resource, Buffer/Greenway/Open Space, Agricultural Resource Conservation Area, and Reserve.. Table 3.10-4 shows the existing City land use designations and acreages for the Project Area. Figure 2.0-7 (in Section 2.0) depicts the existing City of Riverbank General Plan land use designations for the Project Area.

TABLE 3.10-4: EXISTING RIVERBANK LAND USE DESIGNATIONS WITHIN PROJECT AREA

LAND USE	*ACREAGE*
Agricultural Resource Conservation Area	520.81
Buffer/Greenway/Open Space	129.44
Canal	20.63
Civic	15.79
Higher Density Residential (16+ units/Acre)	17.25
Lower Density Residential (0-8 units/Acre)	319.25
Medium Density Residential (8-16 units/Acre)	117.00
Mixed Use	51.44
Multi-Use Recreational/Resource	5.29
Parks	14.79
Reserve	305.29
Rights of Way	4.44
Total	**1,521.41**

The General Plan contains the following standards to guide development for these land uses:

Lower Density Residential (LDR): The LDR land use designation includes single-family homes, one to each lot, developed at a net density of up to eight dwelling units per acre. Lots would be at least 5,000 square feet in size. This category would primarily include detached units, but attached single-family units may be permitted, provided each unit has ground-floor living area and private outdoor open space.

Medium Density Residential (MDR): The MDR land use designation includes small-lot, single-family detached homes, attached single-family homes, and other residences developed at a net density of between eight and 16 dwelling units per acre. Lots would be at least 2,500 square feet in size.

Higher Density Residential (HDR): The HDR land use designation allows for all types of attached single-family and multi-family housing, including condominiums, apartment buildings, townhouses, and other similar residential structures developed at a net density of 16 or more dwelling units per acre.

Mixed-Use (MU): The MU land use designation would accommodate neighborhood-scale retail uses, offices, personal and commercial services, and similar land uses. This is the primary category for Riverbank to accommodate neighborhood-serving retail, services, offices, and similar needs during the buildout of this General Plan. As such, this land use classification is anticipated to be mainly non-residential. However, the MU designation also explicitly allows for higher-density residential development in a vertical or horizontal mixed-use setting. This could include residential development above (on upper stories of a building) or adjacent to commercial operations on the same property.

Civic (C): The C land use designation includes civic and cultural land uses of various types. Examples include schools, places of worship, public facilities and infrastructure, community halls, and similar cultural and civic land uses. Where such land uses occur within an existing or planned neighborhood, they shall be designed to be compatible with the surrounding neighborhood. They shall be designed

to be pedestrian friendly, include publicly accessible areas (where appropriate), and shall unify rather than divide neighborhoods. Certain land uses included in this category, such as day care centers, public facilities and services, places of religious worship, and other appropriate land uses will be allowed in other land use designations, as well, according to standards established in Riverbank's zoning ordinance.

Park (P): The P land use designation includes active and passive parkland of all types. New and existing neighborhoods in Riverbank shall have close and convenient access to community parks, neighborhood parks, and smaller "pocket parks." This category can include public plazas, town squares, tot lots, parkways, linear parks, and other park space configurations.

Buffer/Greenway/Open Space (B/G/OS): This designation provides the opportunity to preserve important open spaces containing natural resources, such as sensitive biological habitat. This category also includes areas where buffering is necessary between different land uses. Bicycle and pedestrian pathways are also accommodated by this Land Use Designation.

Multi-Use Recreational/Resource (MUR/R): This designation would provide opportunities for stormwater management, renewable energy production, and community recreation amenities. This area would accommodate stormwater detention facilities, groundwater recharge areas, wind generators, solar collectors, wind breaks, as well as trails, benches, and other passive recreational uses.

Areas designated MUR/R could also act as a buffer between ongoing agriculture and new residential areas and provide an identifiable and permanent boundary to the outward expansion of the City. Areas designated MUR/R between new growth areas and ongoing agricultural operations will be identified and appropriate widths established through the Specific Plan. The width of MUR/R areas will vary depending on the intended uses taking place within a particular area. The width of the MUR/R for agricultural buffering purposes will be designed to minimize noise, dust, and any adverse impacts related to application of agricultural chemicals as experienced by encroaching residential uses.

Agricultural/Resource Conservation Area (AG): This designation provides for ongoing agricultural operations and land uses compatible with ongoing agricultural operations. Generally, this designation occurs in areas with large properties, where agricultural practices are more feasible. This designation also tends to occur in areas with high-quality soils (for cultivation purposes). Examples of land uses compatible with ongoing agricultural operations include equestrian uses, groundwater recharge areas, public infrastructure, farmer's market stands and other on-site sales of local produce, and farmworker housing.

Reserve (R): The Reserve category is intended for land that the City has not yet planned for a specific urban, agricultural, or resource land use.

City of Riverbank General Plan Policies: General Plan policies associated with specific environmental topics (aesthetics, air quality, agriculture, biological resources, cultural resources,

geology/soils/mineral resources, hazards, hydrology/water quality, noise, public services/recreation, transportation, utilities, etc.) are discussed in the relevant chapters of this EIR.

City of Riverbank Municipal Code, Chapter 153 - Zoning

The purpose of Chapter 153, Zoning, of the City's Municipal Code is to serve the public health, safety and general welfare and to provide the economic and social advantages resulting from an orderly planned use of land resources, in accordance with the City of Riverbank General Plan.

Zoning Map: The Zoning Map identifies zoning districts within the City at the parcel level. The Zoning Map does not have zoning designations for the Project Area because this area is not located within the city limits. The proposed Project will include pre-zoning, which will go into effect if the Project Area is annexed into the city limits.

Stanislaus County General Plan

As noted above, state law requires General Plans to address seven mandated components: circulation, conservation, housing, land use, noise, open space, and safety. The County has also adopted one optional element, the Agricultural Element. The goals of the Stanislaus County General Plan support the Board of Supervisors Priorities of A Safe Community, A Healthy Community, A Strong Local Economy, Effective Partnerships, A Strong Agricultural Economy/Heritage, A Well Planned Infrastructure System, and Efficient Delivery of Public Services by providing a land-use framework responsive to the needs and conditions of the unincorporated area of Stanislaus County in compliance with State General Plan laws.

The Stanislaus County General Plan designates the majority of the Project Area as Agriculture (AG), and a small portion (5 acres including APNs 074-005-012, 074-005-013, 074-005-010, 074-005-011) of the eastern portion of Project Area as Urban Transition (UT). The General Plan contains the following standards to guide development for these land uses:

Agriculture: The Agriculture land use designation recognizes the value and importance of agriculture by acting to preclude incompatible urban development within agricultural areas. The designation is intended for areas of land which are presently or potentially desirable for agricultural usage. These are typically areas which possess characteristics with respect to location, topography, parcel size, soil classification, water availability and adjacent usage which, in proper combination, provide a favorable agricultural environment. This designation establishes agriculture as the primary use in land so designated, but allows dwelling units, limited agriculturally related commercial services, agriculturally related light industrial uses, and other uses which by their unique nature are not compatible with urban uses, provided they do not conflict with the primary use.

Urban Transition: The purpose of the Urban Transition designation is to ensure that land remains in agricultural usage until urban development consistent with a city's (or unincorporated community's) General Plan designation is approved. Generally, urban development will only occur upon annexation to a city, but such development may be appropriate prior to annexation provided the development is not inconsistent with the land use designation of the General Plan of the affected

city. If this is to occur, a change in the General Plan designation consistent with the adopted goals and policies to some other land use designation shall be required.

Stanislaus County, Title 21 – Zoning

The Stanislaus County Zoning Ordinance currently designates the majority of the Project Area for General Agriculture 40 Acre (A-2-40) uses, and a limited portion (APNs 074-005-012, 074-005-013, 074-005-010, 074-005-011) as General Agriculture 10 Acre (A-2-10). The County Zoning Code contains the following standards to guide development for these designations:

General Agriculture 40 and 10 Acre (A-2): The A-2 zone supports and enhances agriculture as the predominant land use in the unincorporated areas of the County. These regulations are also intended to protect open-space lands pursuant to Government Code Section 65910.

Stanislaus Local Agency Formation Commission

The Stanislaus LAFCO is responsible for coordinating orderly reorganization to local jurisdictional boundaries, including annexations. Annexation of the Specific Plan Area to the City of Riverbank is subject to LAFCO approval, and LAFCO will review the proposed annexation for consistency with LAFCO's Policies and Procedures. An annexation can only be approved by LAFCO if the applicable Municipal Services Review (MSR) and Plan for Services is current and demonstrates that adequate services can be provided to the area that is proposed to be annexed. An MSR, produced as part of a LAFCO's regular review of municipal services, consists of a written statement of its determinations regarding infrastructure, growth and population projections, financing, cost avoidance, rate restructuring, shared facilities, government structure options, management efficiency, and local accountability and governance. An annexation proposal must include a Plan for Services consistent with the applicable MSR and must demonstrate that the City is capable of providing the required services. The City must pre-zone the lands to be annexed.

Stanislaus LAFCO has adopted Policies and Procedures for annexation and detachment to and from all agencies within their jurisdiction. The following discussion provides a summary of policies relevant to this EIR section.

Policy 3, Environmental Assessment, of the General Powers and Policy Guidelines documents states that the Commission will ensure that all proposals are reviewed in compliance with the California Environmental Quality Act (CEQA) and Commission adopted CEQA procedures.

Policy 4, Priorities for Annexation and Formation, of the General Powers and Policy Guidelines documents states that the Commission will consider the following priorities or guidelines for annexation and formation with the provision that overriding circumstances must be stated in exceptions (Government Code Section 56001):

A. Annexation to an existing city or district instead of formation of a new agency.
B. Annexation to a city rather than a district if both can provide comparable services.
C. Annexation to a multi-purpose district in preference to annexation to a single purpose district.

D. Formation of a new political entity as the last and least desirable alternative.

Policy 5, Pre-zoning for City Annexation, of the General Powers and Policy Guidelines documents states that the Commission will require pre-zoning designations for city annexation, pursuant to Government Code Section 56375. The adopted procedure for pre-zoning is as follows:

A. Pre-zoning shall also require that the city become the lead agency for environmental review for the proposed change and shall prepare and submit to LAFCO the environmental assessment forms in sufficient time for LAFCO's Executive Officer to comment before a determination of environmental effects is made.

Policy 6, Concurrent City-District Annexation, of the General Powers and Policy Guidelines documents states that, for any annexation within a community served by a variety of community-based local agencies, the Commission shall require concurrent annexation to all of the local agencies serving the community (concurrent city/district annexations).

Policy 17, Island Annexations, of the General Powers and Policy Guidelines documents states that the Commission will consider this policy as it relates to provisions intended to streamline island annexations as set forth in in Government Code Section 56375.3.

Policy 20, Logical Boundaries, of the General Powers and Policy Guidelines documents states that the following shall be considered as favorable factors in determining logical boundaries for a proposal:

A. The Commission encourages the creation of logical boundaries and proposals which do not create islands and would eliminate existing islands, corridors, or other distortion of existing boundaries.
B. Proposals which are orderly and will either improve or maintain the agency's logical boundary are encouraged.

Policy 21, Development of Vacant or Underutilized Land Prior to Annexation of Additional Territory, of the General Powers and Policy Guidelines documents states that the following shall be considered with regards to development of vacant or underutilized land prior to annexation of additional territory:

A. Development of existing vacant non-open space and non-prime agricultural land within an agency's boundaries is encouraged prior to further annexation and development.
B. Annexation proposals to cities or districts providing urban services of undeveloped or agricultural parcels shall show: that urban development is imminent for all or a substantial portion of the proposal area; that urban development will be contiguous with existing or proposed development; and that a planned, orderly, and compact urban development pattern will result. Proposals resulting in leapfrog, noncontiguous urban development patterns shall not be approved.

Policy 22, Agricultural preservation policy (amended march 27, 2019). Agriculture is a vital and essential part of the Stanislaus County economy and environment. Accordingly, boundary changes

for urban development should only be proposed, evaluated, and approved in a manner which, to the fullest extent feasible, is consistent with the continuing growth and vitality of agriculture within the County. LAFCO's mission is to discourage urban sprawl, preserve open space and prime agricultural lands, promote the efficient provision of government services and encourage the orderly formation of local agencies. Additionally, Government Code Section 56668(e) requires LAFCO to consider "the effect of the proposal on maintaining the physical and economic integrity of agricultural lands." Consistent with the legislative intent of LAFCO, the goals of this policy are as follows:

- Guide development away from agricultural lands where possible and encourage efficient development of existing vacant lands and infill properties within an agency's boundaries prior to conversion of additional agricultural lands.
- Fully consider the impacts a proposal will have on existing agricultural lands.
- Minimize the conversion of agricultural land to other uses.
- Promote preservation of agricultural lands for continued agricultural uses while balancing the need for planned, orderly development and the efficient provision of services. The Commission encourages local agencies to identify the loss of agricultural land as early in their processes as possible, and to work with applicants to initiate and execute plans to minimize that loss, as soon as feasible. Agencies may also adopt their own agricultural preservation policies, consistent with this Policy, in order to better meet their own local circumstances and processes

3.10.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on land use, population, or housing if it will:

- Physically divide an established community;
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect;
- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: The proposed Project would not physically divide an established community, or displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. (Less than Significant)

The Project Area is located along the western portion of the City of Riverbank's adopted SOI and is adjacent to the city limits to the east. Lands to the west and south generally consist of undeveloped agricultural land and ranchettes. The proposed Project would result in an expansion of an SOI boundary to areas not previously planned for development, as well as an extension of services for urban development in an area (the Specific Plan Area) that the City has envisioned for growth in their adopted General Plan. The areas outside the Specific Plan Area, but within the SOI boundary, would not be developed under the proposed Project, and would not have services provided to this area. Any future development of the areas outside the Specific Plan Area, but within the SOI boundary, would require a Specific Plan to be prepared.

The Specific Plan would provide roadways and pedestrian pathways to connect the Specific Plan Area to the existing city-wide circulation system. Development of the Specific Plan Area would not result in physical barriers, such as a highways, walls, railroads, or other divisions, that would divide an existing community, but would rather serve as an extension of existing and planned development. Implementation of the proposed Project would not result in displacement of substantial numbers of existing people or housing. Any housing removed from the Specific Plan Area would be replaced onsite. Overall, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.10-2: The proposed Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project adopted to avoid or mitigate an environmental effect. (Less than Significant)

The Specific Plan builds upon the policy framework and direction set forth for development in Riverbank by the City's General Plan. This translates into a focused, detailed, comprehensive plan for the Specific Plan Area that addresses land use, the characteristics of development, circulation, parking, infrastructure, and community development.

RIVERBANK GENERAL PLAN

With the adoption of the 2005-2025 General Plan (adopted in 2009), the City established land uses for all areas within the City's Planning Area. Over time, some areas within a General Plan will develop, and new areas will be identified as a new future growth area. When an area is identified as a new future growth area, a long-range planning process begins.

The City of Riverbank General Plan designates the Project Area as Lower Density Residential (0 to 8 du/net ac), Medium Density Residential (8 to 16 du/net ac), Higher Density Residential (16 or more du/net ac), Mixed-Use, Civic, Park, Multi-Use Recreational/Resource, Buffer/Greenway/Open Space, Agricultural Resource Conservation Area, and Reserve.. The proposed Specific Plan would require a City of Riverbank General Plan Amendment to change land uses in the Project Area to very specifically fit the Project's proposed design concept.

As described in the Riverbank General Plan Land Use Element a portion of the proposed Specific Plan is designated as Reserve and offers an opportunity to plan for future land uses by setting specific performance criteria before development takes place in specific areas. Before making Reserve areas eligible for consideration for urban development, the City will have to hold a public hearing and make required findings, including the following:

- Development of the Reserve area is adjacent to developed areas of the City and infrastructure and services can efficiently be extended to serve the Reserve area;
- The City has had prepared infrastructure planning and financing to serve the needs of the proposed development area, including financing of any necessary citywide facilities to accommodate the planned level of growth;
- Either the rest of the Riverbank Planning Area is sufficiently built out such that the Reserve area is now needed to meet the demand for urban development, or the proposal includes a desired land use unique to the Planning Area that cannot be accommodated on lands within the City limits or portions of the Planning Area without the Reserve overlay designation;
- Completion of an environmental analysis in compliance with the California Environmental Quality Act (CEQA), including a mitigation monitoring program, pursuant to the California Environmental Quality Act, has been prepared by the City;
- A fiscal impact assessment has been prepared by the City demonstrating that, in the short- and long-term, the project would not negatively affect the City from a fiscal perspective; and,
- A Specific Plan, pursuant to Government Code Section 65450, has been prepared to show the specific land uses, development standards, compliance with the General Plan, infrastructure and public service planning and financing, and phasing, in addition to any other requirements of State law and the Community Development Director.

Since General Plans often contain numerous policies emphasizing differing legislative goals, a development project may be "consistent" with a General Plan, taken as a whole, even though the project appears to be inconsistent or arguably inconsistent with some individual policies. (*Sequoyah Hills Homeowners Association v. City of Oakland* (1993) 23 Cal.App.4th 704, 719.) "Because policies in a general plan reflect a range of competing interests, the governmental agency must be allowed to weigh and balance the plan's policies when applying them, and it has broad discretion to construe its policies in light of the plan's purposes." (*San Franciscans Upholding the Downtown Plan v. City & County of San Francisco* (2002) 102 Cal.App.4th 656, 678.) Compliance with a particular policy, however, is required where the policy is "fundamental, mandatory and specific[.]" (*Families*

Unafraid to Uphold Rural El Dorado County v. El Dorado County Bd. of Sup'rs (1998) 62 Cal.App.4th 1332, 1341-1342.)

The ultimate question of the meaning of particular General Plan policies, and thus the proposed Project's consistency with them, lies with the final City decisionmaker on the proposed Project, the City Council. The language found in a general plan is sometimes susceptible to varying interpretations. Case law interpreting the Planning and Zoning Law (Gov. Code, § 65000 et seq.) makes it clear that: (i) the ultimate meaning of such policies is to be determined by the elected city council or a lower tier decision-making body such as a planning commission, as opposed to city staff and EIR consultants, applicants, or members of the public; and (ii) the decision-making body's interpretations of such policies will prevail if challenged in court if the interpretations are "reasonable," even though other reasonable interpretations are also possible (See *No Oil, Inc.* v. *City of Los Angeles* (1987) 196 Cal.App.3d 223, 245-246, 249).

Here, as discussed below, City staff has concluded that the Project is consistent with the key land use issues and development concepts of the General Plan which provide for logical growth of the City, emphasize community form, scale, and identity; encourage attractive and sustainable neighborhoods; support public transit, bicycle, and pedestrian circulation; encourage housing opportunity; promote employment and economic development; encourage a mix of land uses that balance public services and fiscal sustainability; and promote access to open space. Should City Council choose to approve the proposed Project, the Council will rely on the analysis in this section (and other sections in this EIR addressing General Plan consistency issues), as support for the conclusion that the proposed Project is consistent with the General Plan policies discussed herein. Certification of the Final EIR will be indicative of agreement with the staff's conclusions, absent the adoption of written findings to the contrary. As stated in the General Plan Implementation Chapter "The Riverbank General Plan anticipates large new growth areas northwest, east, and southwest of the City" (which include the Specific Plan Area) and the General Plan calls for the development of a Specific Plan to be used to achieve certainty regarding the extent and character of urban development and conservation, as well as how that future development is provided with public services and utilities.

The General Plan has designated lands within the Specific Plan Area for development and urban uses on its Land Use Map and as presented in Table 3.10-5. The General Plan currently designates 319.25 acres for Lower Density Residential uses, 117.00 acres for Medium Density Residential 17.25 acres for Higher Density Residential uses, and 51.44 acres as Mixed Use. Land uses as designated by the existing General Plan would accommodate approximately 4,702 dwelling units under a maximum density using a gross acreage calculation. Additionally, the General Plan designates land for parks, civic uses, conservation and an open space.

TABLE 3.10-5: EXISTING VS PROPOSED RESIDENTIAL LAND USE POTENTIAL WITHIN SPECIFIC PLAN AREA

Land Use	*Existing Land Use - acres*	*Proposed Land Use - acres*	*Difference (Existing v Proposed) - acres*	*Existing Residential Potential Units*	*Proposed Residential - Potential Units*	*Difference*
Agricultural Resource Conservation Area	520.81	0.00	-520.81	0	0	0
Buffer/Greenway/Open Space	129.44	161.64	32.20	0	0	0
Dual Use Park/Ponding Basin	0.00	41.01	41.01	0	0	0
Canal	20.63	0.00	-20.63	0	0	0
Civic	15.79	0.00	-15.79	0	0	0
Higher Density Residential (16+ units/Acre)	17.25	10.02	-7.23	276	160	-116
Lower Density Residential (0-8 units/Acre)	319.25	467.18	147.93	2554	3737	1183
Medium Density Residential (8-16 units/Acre)	117.00	78.70	-38.30	1872	1259	-613
Mixed Use	51.44	76.76	25.32		450	450
Multi-Use Recreational/Resource	5.29	0.00	-5.29	0	0	0
Parks	14.79	43.34	28.55	0	0	0
Reserve	305.29	579.39	274.10	0	0	0
Rights of Way	4.44	63.37	58.93	0	0	0
Total	**1,521.41**	**1,521.41**	**0.00**	**4,702**	**5,607**	**905**

1 THE EXISTING LAND USE INCLUDES THOSE LAND USES SHOWN ON THE ADOPTED GENERAL PLAN LAND USE MAP. THE ACREAGE IS A GROSS ACREAGE, IN THAT IS DOES NOT CARVE OUT ANY LAND FOR RIGHT-OF-WAY, STORM DRAINAGE BASINS, OR OTHER INFRASTRUCTURE NECESSARY TO DEVELOPMENT SAID LAND USE.

2 THE PROPOSED LAND USE IS CARVED INTO "DEVELOPMENT AREA" AND "ROW". THE COMBINATION OF THE TWO IS CLOSER TO A GROSS LAND USE CALCULATION AS IS REFLECTED IN THE GENERAL PLAN.

SOURCE: DE NOVO PLANNING GROUP, 2023.

The Specific Plan Land Use Plan is intended to provide for logical growth in the City with a design that emphasizes community form, scale, and identity. The specific location of each land use is illustrated on a land use map and the density and intensity requirements are documented in the text of the document. The land uses as proposed are not consistent with the General Plan Land Use Map. The Specific Plan would result in a reshuffling of the existing land uses to accommodate various engineering/planning challenges and to create a design pattern for improved form and function. When land uses are not consistent with a General Plan there are two courses of action: 1) the uses are not allowed due to the inconsistency, or 2) the land uses are changed through an amendment to the General Plan to create consistency. The proposed Project would require a General Plan Amendment to change land uses in the Project Area. Figure 2.0-7 illustrates the current General Plan land uses within the Project Area, and Figure 2.0-8 illustrates the proposed land uses.

The Specific Plan as proposed does not conflict with the goals, policies and objectives of the General Plan, and instead creates an opportunity to establish a land use mix, a pedestrian friendly active adult environment, and amenities unlike any other development in Riverbank, and perhaps the region. The General Plan amendment will also cover refinements to, and relocation of, certain planned roadways identified on the General Plan Circulation Element. The General Plan amendment would be adopted by resolution at the same time the Specific Plan is adopted, and would have all appropriate environmental documentation, tribal consultations, public review, and public hearings required by law. Approval of the General Plan amendment would create internal consistency and will ensure a ***less than significant*** impact relative to this topic.

SB 330

The Plan Area has been identified in the City of Riverbank's General Plan for future growth, with portions designated for development and portions designated Reserve. The project proponent has taken the initiative to study the whole area, design a land use mix that is intended to meet a much-needed market while accommodating the site constraints, and plan for the appropriate public services, infrastructure, and amenities needed to support the community. The long-range planning effort will require a General Plan Amendment to ensure that the General Plan and Specific Plan are consistent. Table 3.10-5 presents a comparison of the Existing and Proposed Land Uses.

As noted, the Specific Plan would result in some changes in land use, including changes to residential land uses. The proposed land use changes are largely a reshuffling of the existing land uses to accommodate various engineering challenges (i.e., topography, ingress/egress, etc.), and to create a design pattern for improved form and function. However, the proposed reshuffling of land uses technically involves upzoning/downzoning of residential land which is regulated by SB 330. SB 330 freezes the ability of local governments to downzone, adopt new development standards, or change land-use in residential and mixed-use areas if the change results in less-intensive uses.

As shown in the table above, residential land use changes in the Specific Plan Area would result in a net increase of 147.93 acres of Lower Density Residential, a net reduction of 38.30 acres of Medium

Density Residential, and a net reduction of 7.23 acres of Higher Density Residential. Additionally, the Specific Plan explicitly allows for Higher Density Residential development in a vertical or horizontal mixed-use setting in two of the six Mixed Use areas. This could include residential development above (on upper stories of a building) or adjacent to commercial operations on the same property.

Under the existing General Plan, the Specific Plan Area would allow for 4,702 residential units at maximum density. Under the proposed land use changes, the Specific Plan Area would allow for 5,607 residential units at maximum density. This includes 160 Higher Density units, with an additional 450 Higher Density units in the Mixed Use areas, 1,259 Medium Density units, and 3,737 Lower Density units. Based on the design concept, which involves a reshuffling of the residential land uses within the Specific Plan Area, the maximum residential unit count is increased from what would be allowed under the existing General Plan. This is consistent with the requirements of SB 330, in that it would result in no net loss of residential capacity for the City.

It is noted that the above SB 330 discussion is based on maximum units allowed using density of gross acres. However, due to various constraints (i.e., topography), infrastructure needs (i.e., roadways and storm drainage basins), the net developable land would not permit for development of the maximum allowed units. The Specific Plan does not include any restrictions, regulations, guidelines, standards, or policies, and would restrict residential development to the maximum allowed under the land use designation, rather, the Specific Plan represents an accurate depiction of what is anticipated to be built based on professional planners and engineers having studied the realities of the Specific Plan Area. The SB 330 discussion chose gross acreage for a point of comparison because gross acreage is used in the General Plan.

RIVERBANK ZONING CODE

The City's Zoning Code (Riverbank Municipal Code, Chapter 153) identifies specific zoning districts and planned developments within the city and describes the development standards that apply to each zoning district. The zoning of each parcel within the city limits is designed to be consistent with the General Plan land use designation for that parcel.

The Specific Plan will require annexation into the City of Riverbank and be zoned to reflect the land uses established in the Specific Plan. The City's pre-zoning for Specific Plan Area will include the Specific Plan (SP) zoning designation for the entire Specific Plan Area. The pre-zoning will become effective upon approval of the annexation by LAFCO. The proposed pre-zoning for the Project area is shown on Figure 2.0-9.

The intent and purpose of establishing a SP zoning designation over the entire Specific Plan Area is to permit more imaginative and flexible designs for development projects than would otherwise be permitted under the more conventional zoning designations. This flexibility may include such concepts as the flexibility in the location of structures; clustering; variation in yards and setbacks; the reservation of open space; and provision of neighborhood amenities. The flexibility also allows a developer to address geologic, topographical and environmental factors. At the same time, the SP

designation must conform to the requirements of the General Plan and the intent of the Municipal Code in requiring adequate standards necessary to protect the public health, safety and general welfare. In some cases, specific regulations may be established in the Specific Plan for uses or parcels that vary from the regulations defined in the Municipal Code. Where this happens, the intent is that the regulations defined in the Specific Plan will prevail.

Section 153.311 of the City's Zoning Code outlines the required contents of a Specific Plan prepared for land in the SP district. The purpose of the SP district is to provide a vehicle for implementing the City's General Plan on an area specific basis. A Specific Plan prepared in accordance with the standards set forth in Chapter 153 of the City's Zoning Code is intended to serve as a regulatory document, consistent with the General Plan. In the event of an inconsistency, or conflict between an adopted Specific Plan and comparable regulations of the Municipal Code, the Specific Plan will prevail. The City will review each component of the Specific Plan as improvement plans, building plans, site plans, etc. are submitted for final approval to ensure that they are consistent with the City's Zoning ordinance and Specific Plan.

The proposed pre-zoning would ensure that zoning would be consistent with the proposed General Plan designation within the Specific Plan Area. The areas outside the Specific Plan Area, but within the Project Area, would not receive pre-zoning because they are not proposed for annexation at this time. Approval of the pre-zoning would create internal consistency and will ensure a ***less than significant*** impact relative to this topic.

STANISLAUS LAFCO

The Project Area is currently in an unincorporated portion of Stanislaus County adjacent to the Riverbank city limits and SOI. The quantifiable objectives, as described in Section 2.0 Project Description, include expansion of the Riverbank Sphere of Influence by approximately 1,522 acres, annexation of approximately 997 acres into the Riverbank City limits, extension of infrastructure to the annexed area to serve development, and the subsequent development of the annexed area for: Low Density Residential, Medium Density Residential, High Density Residential, Mixed-Use, and Parks/Recreation, including all infrastructure and utilities necessary to service the development.

The SOI expansion area includes the entire Project Area, while the Annexation Area includes only the Specific Plan Area as well as APNs 074-005-012, 074-005-013, 074-005-010, and 074-005-011 as described in detail in chapter 2.0 and shown on Figure 2.0-2 (Project area boundaries).

This EIR analyzes the SOI Expansion area, and it is intended to be used by Stanislaus LAFCO for its consideration of the SOI amendment and annexation of the Specific Plan Area. LAFCO will require the Specific Plan Area to be pre-zoned by the City of Riverbank in conjunction with the proposed annexation request. The City's pre-zoning for the annexation area will include the Specific Plan (SP) zoning designation for the entire Specific Plan Area, and a small portion of Mixed-Use (CX-1) in the southeast portion of the Project Area and adjacent to the Specific Plan area. The remainder of the

Project Area to the west would remain unassigned. The pre-zoning would go into effect upon a LAFCO annexation approval. The proposed pre-zoning for the Project Area is shown on Figure 2.0-9.

LAFCO is serving as a responsible agency for this EIR pursuant to their *LAFCO Procedures for the California Environmental Quality Act (Adopted June 20, 2007).* When LAFCO is a Responsible Agency under CEQA, in order to approve the annexation, LAFCO will need to certify that it has reviewed the Lead Agency's environmental documents and, if required, adopt CEQA findings for approval and a statement of overriding considerations in accordance with Sections 15091 and 15903 of the CEQA Guidelines.

The City of Riverbank has consulted LAFCO, and will continue to consult with LAFCO through the CEQA process. The consultation process has thus far included sending LAFCO a copy of the Notice of Preparation during the 30-day public review period, in which LAFCO provided a written response. LAFCO will also be sent a copy of the Draft EIR during the 45-day public review period and the Final EIR for their use in the SOI expansion and annexation process. If the Executive Officer determines that there is no need for LAFCO to prepare its own supplemental environmental review document under CEQA Guidelines sections 15062 through 15064, he/she will prepare, or cause to be prepared, "draft" Findings and Statements, findings for approval, and statements of overriding considerations for LAFCO consideration. If the LAFCO approves the annexation, the Executive Officer will file a Notice of Determination within five working days after deciding to approve the SOI expansion and annexation.

LAFCO will review the annexation for consistency with the *Stanislaus LAFCO Policies and Procedures*. These policies and procedures govern Stanislaus LAFCO determinations regarding annexations to all agencies. The policies set forth below will be reviewed as part of the annexation process by LAFCO. The City's own conclusions, reflecting a lead agency's input to a responsible agency, are set forth following each policy.

> Policy 3, Environmental Assessment, of the General Powers and Policy Guidelines documents states that the Commission will ensure that all proposals are reviewed in compliance with the California Environmental Quality Act (CEQA) and Commission adopted CEQA procedures.
>
> This Draft EIR has been prepared pursuant to CEQA and LAFCO adopted CEQA procedures.

A. Policy 4, Priorities for Annexation and Formation, of the General Powers and Policy Guidelines documents states that the Commission will consider the following priorities or guidelines for annexation and formation with the provision that overriding circumstances must be stated in exceptions (Government Code Section 56001):

    a. Annexation to an existing city or district instead of formation of a new agency.
    b. Annexation to a city rather than a district if both can provide comparable services.
    c. Annexation to a multi-purpose district in preference to annexation to a single purpose district.

d. Formation of a new political entity as the last and least desirable alternative.

The Project Area is currently outside the Riverbank city limits within unincorporated Stanislaus County. The majority of the Project Area, with the exception of a few parcels in the southeastern portion of the Project Area, lies outside the Riverbank SOI. The proposed Project would require an SOI expansion of the entire Project Area, and annexation of the Specific Plan Area. Consistent with Policy 4, the annexation would be to an existing city, rather than to a special district. Nor will the formation of a new political entity be required.

This EIR analyzes lands included within the SOI expansion area (Project Area) and the annexation of the Specific Plan Area into the City of Riverbank, and it is intended to be used by LAFCO for their consideration of these approvals. Annexation of the Specific Plan Area is consistent with the growth plans outlined in the Riverbank General Plan.

B. Policy 5, Pre-zoning for City Annexation, of the General Powers and Policy Guidelines documents states that the Commission will require pre-zoning designations for city annexation, pursuant to Government Code Section 56375. The adopted procedure for pre-zoning is as follows:

a. Such pre-zoning shall also require that the city become the lead agency for environmental review for the proposed change and shall prepare and submit to LAFCO the environmental assessment forms in sufficient time for LAFCO's Executive Officer to comment before a determination of environmental effects is made.

LAFCO will require the Specific Plan Area to be pre-zoned by the City of Riverbank in conjunction with the proposed annexation. The City's pre-zoning for the Specific Plan Area will include the SP zoning designation. The City understands the need to pre-zone the Project area before LAFCO can consider the annexation application. Pre-zoning would go into effect as actual zoning upon annexation approval by LAFCO.

C. Policy 6, Concurrent City-District Annexation, of the General Powers and Policy Guidelines documents states that, for any annexation within a community served by a variety of community-based local agencies, the Commission shall require concurrent annexation to all of the local agencies serving the community (concurrent city/district annexations).

This EIR includes an assessment of the impacts of the proposed Project and proposed annexation on service agencies. Many services would be provided directly through the City of Riverbank, or from a City contracted service provider. The Project area would be annexed into any other service districts that provide service not provided by the City or their contractors.

D. Policy 17, Island Annexations, of the General Powers and Policy Guidelines documents states that the Commission will consider this policy as it relates to provisions intended to streamline island annexations as set forth in in Government Code Section 56375.3. Policy

20, Logical Boundaries, of the General Powers and Policy Guidelines documents states that the following shall be considered as favorable factors in determining logical boundaries for a proposal:

a. The Commission encourages the creation of logical boundaries and proposals which do not create islands and would eliminate existing islands, corridors, or other distortion of existing boundaries.

b. Proposals which are orderly and will either improve or maintain the agency's logical boundary are encouraged.

State law describes islands as being surrounded or "substantially surrounded" by a city or neighboring city. Stanislaus LAFCO has adopted a policy stating that it will determine whether an area is considered "substantially surrounded" on a project-by-project basis. In the past LAFCO has identified two categories of Islands: Islands (100% surrounded by city limits); and Potential Islands (90%+ surrounded by city limits). LAFCO also has a category named "Pockets." These are developed areas within a peninsula of unincorporated territory that are at least 80% surrounded by city limits or are remainder areas of other islands that could reach this percentage through contiguous annexations.

The proposed annexation of the Specific Plan Area will leave the unincorporated Park Ridge / River Heights neighborhood surrounded by the city Limits on three sides and the County boundary on the north. This community is approximately 58 acres and fully developed with single family homes. This community is within the existing SOI, and is designated as a Primary Area, which is land to be annexed in the 10-year horizon. The proposed annexation would leave approximately 65% of the area surrounded by the city limits, while approximately 35% would remain surrounded by unincorporated land. Based on the above, it does not appear that this community meets the definition of Island, Potential Island, or Pocket; however, the ultimate determination on that issue will be made by LAFCO.

It is noted that the Project Applicant has held a meeting with residents of this neighborhood to inform them of the proposed Project, and also talk about the possibility of annexing the neighborhood into the City of Riverbank. While this is not proposed as part of Specific Plan, it is an option for consideration by these residents. An annexation of this neighborhood would not result in any new physical development given that it is an existing developed neighborhood. Additionally, the neighborhood is already within the City's General Plan, so there would be no amendments necessary. An annexation would require pre-zoning to a zoning district consistent with the existing land use designation. These are all planning administrative and legal functions that involve revisions to maps, but they would not have physical environmental impacts that are different then the baseline conditions of this neighborhood.

The annexation of the Park Ridge / River Heights neighborhood would benefit from connection to City services upon annexation, and could be included in the proposed annexation proposal; however, this decision has yet to be made by the residents of this neighborhood. Should the residents decide that they do not want to annex into the City, LAFCO would need to make a determination as to whether or not the neighborhood would be considered an Island. If it was determined to not be an island, then the annexation proposal could move forward as proposed. If it were determined to be an island, then LAFCO has the ability to consider an exception to the island creation prohibition under Government Code sections 56744 and 56375[m]. Under these sections, LAFCO may waive the prohibition against creating unincorporated territory completely surrounded by a city if LAFCO finds that the application of this restriction "would be detrimental to the orderly development of the community and that the area is so located that it cannot reasonably be annexed to another city or incorporated as a new city." The annexation proposal meets the requirements of this exception.

E. Policies 21 and 22:

Policy 21, Development of Vacant or Underutilized Land Prior to Annexation of Additional Territory, of the General Powers and Policy Guidelines documents states that the following shall be considered with regards to development of vacant or underutilized land prior to annexation of additional territory:

a. Development of existing vacant non-open space and non-prime agricultural land within an agency's boundaries is encouraged prior to further annexation and development.
b. Annexation proposals to cities or districts providing urban services of undeveloped or agricultural parcels shall show: that urban development is imminent for all or a substantial portion of the proposal area; that urban development will be contiguous with existing or proposed development; and that a planned, orderly, and compact urban development pattern will result. Proposals resulting in leapfrog, noncontiguous urban development patterns shall not be approved.

Policy 22 – Agricultural Preservation Policy. Consistent with the legislative intent of LAFCO, the goals of this policy are as follows:

- Guide development away from agricultural lands where possible and encourage efficient development of existing vacant lands and infill properties within an agency's boundaries prior to conversion of additional agricultural lands.
- Fully consider the impacts a proposal will have on existing agricultural lands.
- Minimize the conversion of agricultural land to other uses.
- Promote preservation of agricultural lands for continued agricultural uses while balancing the need for planned, orderly development and the efficient provision of services.

Prime Farmland

Government Code section 56300 provides that all LAFCOs must exercise their powers "in a manner that encourages and provides planned, well-ordered, efficient urban development patterns with appropriate consideration of preserving open space and agricultural lands within those patterns." Section 56377 states that, in reviewing "proposals" that "could reasonably be expected to induce, facilitate, or lead to the conversion of existing open-space lands to uses other than open-space uses," LAFCOs shall consider the following policies:

- "development or use of land for other than open space uses shall be guided away from existing prime agricultural lands, unless that action would not promote the planned, orderly, efficient development of an area"; and
- "development of existing vacant or nonprime agricultural lands for urban uses within the existing jurisdiction of a local agency or within the sphere of influence of a local agency should be encouraged before any proposal is approved which would allow for or lead to the development of existing open space lands for non-open-space uses which are outside of the existing jurisdiction of the local agency or outside of the existing sphere of influence of the local agency."

According to the Cortese-Knox-Hertzberg Local Government Reorganization Act (Government Code Section 56064) defines prime agricultural land as follows:

1. All land that qualifies for rating as class I or class II in the Natural Resource Conservation Service land use capability classifications, whether or not land is actually irrigated, provided that irrigation is feasible.

2. Land which qualifies for rating 80 through 100 in the Storie Index Rating.

3. Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture.

4. Land planted with fruit- or nut-bearing trees, vines, bushes, or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre.

5. Land which has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars ($400) per acre for three of the previous five calendar years.

The City of Riverbank is located in an agriculturally rich region, with most land being suitable for agricultural production. Additionally, most agricultural land in the region qualifies as Prime Farmland under the LAFCO definition of Prime Farmland. Within the Specific Plan Area, the majority of the land is Prime Farmland. The exception is most of the land along Patterson Road that is developed in

residential and/or commercial uses. The State has also designated Prime Farmland within the Specific Plan Area. The State designation is through the Farmland Mapping and Monitoring Program.

Development of the proposed Project would result in the permanent conversion of approximately 661.33 acres of Prime Farmland as shown on Figure 3.2-1. Under the LAFCO definition, there is an additional 165.80 acres of land designated as Farmland of Statewide Importance by the State that is under agricultural production (orchards); however, the soil quality does not allow it to qualify as Prime Farmland under the LAFCO definition.

It is noted that all land outside of the Specific Plan Area, but within the SOI boundary change, would not be converted to non-agricultural uses under the proposed Project. The loss of the 661.33 acres of LAFCO designated Prime Farmland is all within the Specific Plan Area, and has been identified as a potentially significant environmental impact.

Conversion of a portion of the Specific Plan Area (eastern portion) from largely agricultural uses to urban uses was analyzed in the City's General Plan EIR. As noted in Section 4.3 of the City's General Plan EIR, the loss of agricultural land to urbanization is considered permanent. While the City has incorporated all available mitigation for the loss of agricultural land in the form of General Plan policies and implementation strategies, the extent of urban development under the General Plan inherently involves the conversion of high-quality agricultural land which is a significant and irreversible environmental impact.

Mitigation Measure 3.2-1 requires the Project applicant to conserve farmland of equal value to the land that will be converted at a 1:1 ratio, in perpetuity, or pay in-lieu fees that would functionally achieve the conservation intent. Mitigation Measure 3.2-2 requires participation in the Stanislaus LAFCO's Agricultural Preservation Policy consistent with the City's Sustainable Agricultural Strategy. While the implementation of these mitigation measures would assist in preserving farmland, the proposed Project would still result in the permanent conversion and loss of Prime Farmland. There are no feasible measures that would allow for the proposed Project to be developed according to the Goals and Objectives outlined in Section 2.0 Project Description, while mitigating the impact to an insignificant level.

Williamson Act

Much of the Project Area is currently under agricultural production. There are nine parcels within the Project Area that are under a Williamson Act Contract. The Williamson Act parcels within the SOI, but outside the Specific Plan Area, would have no potential for conflict because they are not proposed for development. These parcels would continue to operate under their existing contract.

The two Williamson Act parcels within the Specific Plan Area will have the option to file a notice of nonrenewal and wait nine years for the contract to expire, cancel with the payment of fees equal to 12.5% of the property value, or complete an agricultural easement exchange. Because other mitigation measures within this EIR call for securing offsite farmland at a 1:1 ratio, it is possible that some of that farmland could be placed under a Williamson Act contract as an agricultural easement

exchange. The exact parcels to be included in an agricultural easement exchange have not been identified at this stage of the planning process, but it is reasonably anticipated to be used as an option.

A proper cancellation and/or agricultural easement exchange would ensure that there is no conflict with a Williamson Act contract. However, the proposed Project would still require cancellation or easement exchange to remove Williamson Act contracts from the Specific Plan Area. There are no feasible measures that would allow for the proposed Project to be developed according to the Goals and Objectives outlined in Section 2.0 Project Description, while maintaining the existing Williamson Act contracts within the Specific Plan Area.

Land Availability within the City limits and SOI.

As described in Chapter 2.0 (Project Description) the Specific Plan identifies up to 2,432 dwelling units in 18 residential villages. A portion of the Specific Plan is designed as an age restricted active adult community, while a portion of the Plan is not age-restricted. The Specific Plan would result in the development of up to 1,550 Low Density Residential (LDR) units, up to 702 Medium Density Residential (MDR) units, and up to 180 High Density Residential (HDR) units within these 18 residential villages covering 1,521.41 acres.

The Riverbank Housing Element identifies development potential within the city limit (1,870 units) and 4,842 units within the SOI. These units may include developable areas on prime farmlands, but exclude lands with Williamson act contracts. However, it should be noted that development opportunities throughout the city limits and SOI do not provide for contiguous parcels that provide opportunities for large areas of master planned development similar to that proposed by the Specific Plan.

Availability of Water Supplies (Government Code Section 65352.5)

Gov. Code Section 56668 requires LAFCOs to consider timely availability of water supplies adequate for projected needs as specified in Gov. Code Section 65352.5.

Water supply and infrastructure needs and a subsequent water supply assessment are detailed in Chapter 3.14 *Utilities" of this DEIR. As described in Chapter 3.14, A Water Supply Assessment (WSA), as required by these criteria under SB 610, has been prepared for the Project. The Water Supply Assessment is included in Appendix H of this EIR. Pursuant to Water Code section 10910(c)(4), and based on the technical analyses described in the Water Supply Assessment, the total projected water supplies documented to be available for the Project during Normal, Single Dry, and Multiple Dry water years during a 20-year projection are more than sufficient to meet the projected water demand associated with the Project, in addition to existing and planned future uses.

As concluded in Section 3.14, existing public services and utility/service systems can be readily upgraded and/or extended into the Specific Plan Area to serve the increased population and demands. Development within the Specific Plan Area is anticipated to occur over several years based

on market demand, which would allow for development of necessary services and infrastructure to serve the anticipated growth.

Consistency with Local Hazard Mitigation Plans

As descried in Chapter 3.8 (Hazards and Hazardous Materials) the proposed Project does not include any actions that would impair or physically interfere with any of Stanislaus County's emergency plans or evacuation routes.

The City of Riverbank proactively addresses hazards through the General Plan Safety Element and references to the MJHMP, which is synonymous with the LHMP. Specifically, Safety Element Policy SAFE-1.1 ensures that approved development projects and public investments are consistent with the information provided in the Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan.

Stanislaus County in collaboration with the cities of Ceres, Hughson, Modesto, Newman, Oakdale, Patterson, Riverbank, Turlock, Waterford, and the County Office of Education is currently updating the 2017 Local Hazard Mitigation Plan (LHMP) within adoption expected in 2022. This planning process involves the development of community mitigation strategies designed to reduce risks and vulnerabilities posed by natural, man-made, and human-health hazards. The plan must be updated and approved by the Federal Emergency Management Agency (FEMA) every five years to keep it current and to maintain eligibility for federal and state mitigation grant assistance. The plan is currently being updated as a multi-jurisdictional hazard mitigation plan (MJHMP) and under the guidance of a Hazard Mitigation Planning Committee (HMPC). Representatives from Riverbank are members of the LHMP planning team, ensuring that regional and local planning efforts are consistent and well-integrated.

Additional information related to specific hazards including flooding, wildfire, and other local hazards are included in Chapters 3.8 (Hazards and Hazardous Materials), and additional information related to flood risks and dam inundation is included in Chapter 3.9 (Hydrology and Water Quality).

Stanislaus Council of Governments 2018 Regional Transportation Plan

The Stanislaus Council of Governments' (StanCOG) current Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) was adopted in 2018. The RTP/SCS identifies the development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas (GHG) emissions from cars and trucks beyond the per capita reduction targets identified by the California Air Resources Board (CARB). The overreaching strategy described in the RTP/SCS calls for infill development patterns, and providing a transportation system that provides alternatives to driving alone and connects everyday destinations, so that the Stanislaus region can be an economically viable place to work and live while protecting its natural resources and scenic beauty.

The RTP/SCS also contains a host of improvements to the region's multimodal transportation system and a financial plan that identifies how much money is available to support the region's transportation investments. Within the RTP, the SCS demonstrates the region's ability to attain and

exceed the greenhouse gas (GHG) emission reduction targets set forth by the California Air Resources Board (CARB).

StanCOG administers the regional fee for development in Stanislaus County. The fee was last updated in 2017. McHenry Avenue and River Road are in the RTF network, but review of the fee programs project list indicates that there are no candidate projects in the Project area.

Currently the Specific Plan area is located outside the city limits and SOI. The Riverbank General Plan does include mapped urban land uses for roughly half the Specific Plan Area. However, the existing RTP/SCS mapping has not identified growth or the land uses proposed within the Plan Area into its projections, or land use maps contained within the RTP/SCS. Therefore, implementation of the proposed Project may exceed the growth assumptions contained in the RTP/SCS. As such, the proposed Specific Plan would result in growth in the City that is inconsistent with the underlying assumptions used to develop strategies in the RTP/SCS. It should be noted that the RTP and SCS are updated periodically and each subsequent update should take into account regional growth and new proposed growth within each jurisdiction.

Environmental Justice

LAFCO is required to consider the extent to which proposals will promote environmental justice. As defined by statute, "environmental justice" means the fair treatment of people of all races, cultures, and incomes with respect to the location of public facilities and the provision of public services. The Project area is not located in a disadvantaged community, the site is not within CalEnviroScreen 4.0 75th Percentile.

Pursuant to SB 244, local agencies and LAFCOs are also required to plan for Disadvantaged Unincorporated Communities (DUCs). Many of these communities lack basic infrastructure, including streets, sidewalks, storm drainage, clean drinking water, and adequate sewer service. LAFCO actions relating to Municipal Service Reviews, SOI reviews/amendments, and annexations must take into consideration DUCs, and specifically the adequacy of public services, including sewer, water, and fire protection needs or deficiencies, to these communities. According to the Stanislaus County Disadvantaged Unincorporated Communities Report[1] the Project area does not meet the criteria of a DUC and is not identified as a DUC in the Report.

Conclusion

The policies discussed above are intended to ensure orderly reorganization to local jurisdictional boundaries, including annexation. There are a variety of environmental effects associated with the proposed Project, including loss of Prime Farmland and Williamson Act Contract cancelation. This is

[1]https://www.stancounty.com/planning/pl/documents/gp/i-d-stanislaus-county-disadvantaged-unin-communities-report.pdf

thoroughly analyzed in Section 3.2 Agricultural Resources. The Project will include mitigation measures to offset the impact to the extent feasible.

Ultimately, LAFCO will determine whether the proposed annexation would first require an update to the Riverbank Municipal Service Review in order to approve the annexation. This LAFCO policy was not specifically adopted to avoid or mitigate an environmental effect, but rather it is intended to ensure orderly and logical reorganization to local jurisdiction boundaries. The proposed Project is consistent with LAFCO policies adopted to address environmental impacts. Although the proposed Project is not included within the current StanCOG RTP/SCS, this fact, by itself, is not indicative of any significant environmental effect requiring mitigation. Notably, as explained in Section 3.7 (Greenhouse Gases, Climate Change and Energy), the proposed Project is not inconsistent with State climate policies and includes GHG reducing features that cause it to do its fair share towards meeting Statewide GHG reduction targets. For these reasons, implementation of the proposed Project will have a ***less than significant*** impact relative to this topic.

Impact 3.10-3: The proposed Project has the potential to induce substantial population growth in an area. (Less than Significant)

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as:

> *The way in which a proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth…It is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.*

Section 15126 of the State CEQA Guidelines requires that all aspects of a project be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the EIR must also identify growth-inducing impacts of the Project. Although growth inducement itself is not considered an environmental effect, it could potentially lead to foreseeable physical environmental effects.

Growth inducement can generally be considered any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand (*Napa Citizens for Honest Government v. Napa County Board of Supervisors* (2001) 91 Cal.App.4th 342). Similarly, a project would indirectly induce growth if it would remove an obstacle

to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply or wastewater treatment/collection in an area where this service historically limited growth could be considered growth-inducing.

The State CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. (CEQA Guidelines Section 15358[b].) These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans typically provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

Components of Growth: The timing, magnitude, and location of land development and population growth in a region are based on various interrelated land use and economic variables. Key variables include regional economic trends, market demand for residential and non-residential uses, land availability and cost, the availability and quality of transportation facilities and public services, proximity to employment centers, the supply and cost of housing, and regulatory policies or conditions. Since the General Plan of a community defines the location, type, and intensity of growth, it is the primary means of regulating development and growth in California.

GROWTH EFFECTS OF THE PROJECT

Direct Population Growth: The proposed Project includes residential units that would result in direct population growth. The Department of Finance estimates an average of 3.33 people per household in Riverbank in 2022. For senior households 55 years and older, average household sizes are smaller. According to the US Bureau of Labor Statistic senior housing (age 55+) has an average household size of 1.89. The proposed Project includes a range of density and intensity, which would be anticipated to result in up to 2,432 units. Based on the anticipated number of residential units that will be built in the Project Area (2,432 units), the population would be anticipated to increase by an estimated 5,093 persons as shown in Table 3.10-6. It is noted that the Mixed Use areas include provisions that could allow additional residential units, which would be anticipated to result in a population slightly higher than reflected in the table.

TABLE 3.10-6: ANTICIPATED HOUSING AND POPULATION GROWTH

VILLAGE	*LAND USE*	*AGE RESTRICTED*	*LOT COUNT*	*PEOPLE PER HOUSEHOLD*	*POPULATION*
A	Low Density Residential	No	101	3.33	336
B	Low Density Residential	No	42	3.33	139
C	Low Density Residential	Yes	254	1.89	480
D	Low Density Residential	Yes	207	1.89	391
E	Low Density Residential	Yes	148	1.89	280
F	Low Density Residential	Yes	173	1.89	327
G	Low Density Residential	Yes	97	1.89	183
H	Medium Density Residential	Yes	157	1.89	297
I	High Density Residential	Yes	180	1.89	340
J	Medium Density Residential	Yes	227	1.89	429
K	Medium Density Residential	Yes	318	1.89	601
L	Low Density Residential	Yes	176	1.89	333
M	Low Density Residential	Yes	48	1.89	90
N	Low Density Residential	Yes	29	1.89	54
O	Low Density Residential	Yes	70	1.89	132
P	Low Density Residential	No	67	3.33	223
Q	Low Density Residential	No	108	3.33	359
R	Low Density Residential	No	30	3.33	99
Totals*	--	--	**2,432**		**5,093**

NOTES: THE FINAL UNIT COUNT FOR EACH VILLAGE MAY SHIFT SOME DURING ENGINEERING DESIGN AND FINAL MAP PROCESSING, BUT THE CUMULATIVE TOTAL NUMBER OF UNITS TO BE DEVELOPED IN THE SPECIFIC PLAN IS ANTICIPATED TO BE WITHIN THE RANGE OF UNITS DOCUMENTED IN THIS EIR.
SOURCE: DEPARTMENT OF FINANCE E-5 POPULATION AND HOUSING ESTIMATES; U.S. BUREAU OF LABOR STATISTICS.

The adopted General Plan designates land uses to ensure a balance between new residential development and jobs-creating uses. As stated in the General Plan Implementation Chapter "*The Riverbank General Plan anticipates large new growth areas northwest, east, and southwest of the City*," which include the Specific Plan Area. The General Plan calls for the development of a Specific Plan to be used to achieve certainty regarding the extent and character of urban development and conservation in these areas, as well as how that future development is provided with public services and utilities. The General Plan assumed that development of the Specific Plan Area would occur and the General Plan has designated lands within the Specific Plan Area for development and urban uses on its Land Use Map and as shown in Table 2.0-3 *Existing Riverbank Land Use Designations* included in Chapter 2.0 (Project Description). The direct population growth shown in the table above is consistent with planned growth for Riverbank. Implementation of the proposed Project will have a ***less than significant*** impact relative to this topic.

Indirect Population Growth: As described above, projects that include employment generating uses have the potential to result in indirect population growth through the creation of jobs or the extension of infrastructure into areas that were not previously served. The extensions of infrastructure into areas previously unserved may facilitate the future growth and development within the Reserve land use areas in the southwest portion of the Plan Area. However, as described

in Chapter 2.0 (Project Description), the Reserve category is intended for land that the City has not yet planned for a specific urban or resource land use. The Reserve designation does not denote any specific land use, but rather is an overlay designation that specifies additional requirements related to timing of development, analysis required by the City, infrastructure and service standards, and related topics. Before making Reserve areas eligible for consideration for development, the area would need to have a land plan developed and processed through the standard application process, including a detailed environmental analysis.

Additionally, implementation of the proposed Project would provide job growth to the area. It is anticipated that local employment would be increased to provide administrative, management, visitor-serving areas, and retail services. The proposed Project is expected to require both full-time and part-time employees. It is anticipated that the employment growth would be met both by existing residents and through the attraction of new residents.

The proposed Project would establish a variety of business opportunities that can support some workforce of Riverbank and the local area. The proposed Project would not result in indirect population growth beyond the City's planned capacity, and would not be considered a major employer that would drive significant numbers of new residents to the area. Therefore, the proposed Project is not anticipated to exceed the planned growth (directly or indirectly) in the area beyond what is anticipated in the City of Riverbank General Plan. While the proposed Project will result in some indirect population growth, it is not anticipated to significantly induce growth. Implementation of the proposed Project will have a ***less than significant*** impact relative to this topic.

This section provides a general description of the existing noise sources in the Project Area, a discussion of the regulatory setting, and identifies potential noise impacts associated with new development in the Specific Plan Area. Project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Where feasible, mitigation measures have been identified for significant noise-related impacts. However, increased noise due to project construction and project traffic remain significant and unavoidable.

3.11.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
SEL	Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60-dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to L_{dn}, but includes

a +5 dB penalty for evening noise. Table 3.11-1 lists several examples of the noise levels associated with common situations.

TABLE 3.11-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	*NOISE LEVEL (DBA)*	*COMMON INDOOR ACTIVITIES*
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a 1-dBA change cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;

- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE LEVELS

Existing and Surrounding Land Uses

Uses immediately adjacent to the southeast, south, southwest, and west of the Project Area include agricultural uses and limited residential uses, including ranchettes and large estates lots. Other nearby uses include residential subdivisions to the east within Riverbank and the unincorporated County, and to the west within the unincorporated County. The Modesto Rifle Club is also located near the southwest boundary of the Specific Plan Area.

Existing Ambient Noise Levels

To quantify the existing ambient noise environment in the vicinity of the Specific Plan Area, continuous (24-hour) noise level measurements were conducted on the Development Area site on January 18th – January 20th, 2020. The noise measurement locations are shown on Figure 3.11-1. The noise level measurement survey results are provided in Table 3.11-2. Appendix B of Appendix F shows the complete results of the noise monitoring survey.

The sound level meters were programmed to collect hourly noise level intervals at each site during the survey. The maximum value (L_{max}) represents the highest noise level measured during an interval. The average value (L_{eq}) represents the energy average of all of the noise measured during an interval. The median value (L_{50}) represents the sound level exceeded 50 percent of the time during an interval.

Larson Davis Laboratories (LDL) Model 812, 820, and 831 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

TABLE 3.11-2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

SITE	LOCATION	DATE/TIME	L_{DN}	AVERAGE MEASURED HOURLY NOISE LEVELS, dB					
				DAYTIME (7AM-10PM)			NIGHTTIME (10PM-7AM)		
				L_{EQ}	L_{50}	L_{MAX}	L_{EQ}	L_{50}	L_{MAX}
CONTINUOUS (24-HOUR) NOISE LEVEL MEASUREMENTS									
LT-1	Northern SP boundary	1/18/20	42	41	38	56	34	30	51
		1/19/20	43	41	39	57	35	31	52
		1/20/20	47	44	42	60	40	34	56
LT-2	Southern SP boundary, north of Modesto Rifle Club	1/18/20	46	46	36	67	36	30	55
		1/19/20	45	45	40	66	36	32	60
		1/20/20	48	46	41	68	40	35	49
LT-3	Southern SP boundary, south of Modesto Rifle Club	1/18/20	53	55	35	73	34	28	56
		1/19/20	47	48	38	65	34	29	55
		1/20/20	50	50	39	68	39	33	56
SHORT-TERM NOISE LEVEL MEASUREMENTS									
ST-1	North side of SP boundary near river	1/17/20 1:13 p.m.	N/A	42	36	63	N/A	N/A	N/A
ST-2	Northwest side of SP boundary near existing residence	1/17/20 11:15 a.m.	N/A	37	35	47	N/A	N/A	N/A
ST-3	East side of SP boundary by river	1/17/20 12:45 p.m.	N/A	42	37	54	N/A	N/A	N/A
ST-4	Southeast side of SP boundary by river	1/21/20 9:38 a.m.	N/A	46	45	57	N/A	N/A	N/A
ST-5	Southeast side of SP boundary by existing residential	1/21/20 9:59 a.m.	N/A	44	44	50	N/A	N/A	N/A
ST-6	South side of SP boundary by canal	1/21/20 9:59 a.m.	N/A	49	48	58	N/A	N/A	N/A

SOURCE: SAXELBY ACOUSTICS, 2021.

MODESTO RIFLE CLUB

Saxelby Acoustics observed that shooting range noise was audible within the Specific Plan boundaries. Based upon noise measurements conducted of pistol and rifle range operations at the Modest Rifle Club, noise contours were mapped across the Specific Plan boundaries. The results of this analysis are shown on Figure 3.11-2.

Existing Traffic Noise Environment at Sensitive Receptors

OFF-SITE TRAFFIC NOISE IMPACT ASSESSMENT METHODOLOGY

To predict existing noise levels due to traffic, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno

reference noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. Traffic volumes for existing conditions were obtained from the traffic data prepared for the project. Truck percentages and vehicle speeds on the local area roadways were estimated from field observations.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. Where traffic noise barriers are predominately along a roadway segment, a -5 offset was added to the noise prediction model to account for various noise barrier heights. A -5 to dB offset was also applied where outdoor activity areas are shielded by intervening buildings. In some locations, sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this report.

Table 3.11-3 shows the existing traffic noise levels in terms of L_{dn} at closest sensitive receptors along each roadway segment. A complete listing of the FHWA Model input data is contained in Appendix C of Appendix F.

TABLE 3.11-3: EXISTING TRAFFIC NOISE LEVELS

ROADWAY	*SEGMENT*	*EXTERIOR TRAFFIC NOISE LEVEL, DB L_{DN}*
McHenry Ave	Jones Rd to River Rd	63.2
McHenry Ave	River Rd to Coffee Rd	64.7
McHenry Ave	Coffee Rd to Stewart Rd	66.5
McHenry Ave	Stewart Rd to Ladd Rd	68.5
McHenry Ave (SR 108)	Ladd Rd to Crawford Rd	72.6
McHenry Ave (SR 108)	Crawford Rd to Kiernan Ave (SR 219)	68.4
McHenry Ave (SR 108)	Kiernan Ave (SR 219) to Pelandale Ave	67.7
River Rd	Murphy Rd to McHenry Ave	67.4
River Rd	McHenry Ave to Harold Ave	66.7
Ladd Rd	Stoddard Rd to Carver Rd	63.1
Ladd Rd	Carver Rd to McHenry Ave	69.0
Patterson Rd (SR 108)	McHenry Ave to Coffee Rd	63.3
Patterson Rd (SR 108)	Coffee Rd to Oakdale Rd	64.6
Patterson Rd (SR 108)	Oakdale Rd to Jackson Ave	66.7
Kiernan Ave (SR 219)	Tully Rd to McHenry Ave	69.9
Claribel Rd	McHenry Ave to Coffee Rd	70.8
Claribel Rd	Coffee Rd to Oakdale Rd	65.5
Skittone Rd	Patterson Rd (SR 108) to Crawford Rd	51.5
Coffee Rd	Patterson Rd (SR 108) to Crawford Rd	64.4
Coffee Rd	Crawford Rd to relocated Claribel Rd	64.6
Coffee Rd	Relocated Claribel Rd to Claribel - NCC	66.3
Coffee Rd	Claribel - NCC to Claratina Ave	68.7

ROADWAY	*SEGMENT*	*EXTERIOR TRAFFIC NOISE LEVEL, DB L_{DN}*
Oakdale Rd	Patterson Rd (SR 108) to Morrill Rd	61.8
Oakdale Rd	Morrill Rd to Crawford Rd	63.6
Oakdale Rd	Crawford Rd to Claribel Rd	63.6
Oakdale Rd	Claribel Rd to Claratina Ave	66.9
Morrill Rd	Coffee Rd to Oakdale Rd	63.0

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM CALTRANS AND SAXELBY ACOUSTICS. 2021.

3.11.2 REGULATORY SETTING

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, includes questions that indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA case law also addresses noise impacts. (See, e.g., *King & Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814, 883-894.) CEQA standards are discussed more below under the Thresholds of Significance section.

Governor's Office of Planning and Research

The State of California General Plan Guidelines (State of California 2017), published by the Office of Planning and Research (OPR), provides guidance for the acceptability of projects within specific CNEL or Ldn contours. The guidelines also present adjustment factors that may be used in order to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

LOCAL

City of Riverbank General Plan

The City of Riverbank General Plan Noise Element contains goals, policies, and implementation measures for assessing noise impacts within the City. Listed below are the noise goals, policies, and implementation. The overarching goal for the environment is to ensure that noise does not substantially reduce the quality of urban life.

GOALS: NOISE

- NOISE-1. Create land use patterns and transportation networks that minimize noise problems.
- NOISE-2. Minimize noise impacts associated with development projects and other land use change.

POLICIES: NOISE

- NOISE-1.1. Large-scale commercial land uses requiring frequent large truck deliveries shall not be developed within new or existing neighborhoods.
- NOISE-1.2. New growth areas shall avoid the use of large-volume, high-speed roadways within neighborhoods and instead disperse vehicular traffic onto a network of fully connected smaller roadways.
- NOISE-1.3. Industrial and other noise-generating land uses shall be located away from noise-sensitive land uses or shall enclose any substantial noise sources completely within buildings or structures.
- NOISE-1.4. Development of noise-sensitive land uses in areas exposed to existing or projected levels of noise from transportation, stationary sources, or agricultural operations exceeding, or estimated to exceed, levels specified in Table N-1 of the General Plan [Table 3.11-4 of this section] shall require transportation planning, traffic calming, site planning, buffering, sound insulation, or other methods to reduce noise exposure in outdoor activity areas and interior spaces to the levels specified in Table N-1 of the General Plan [Table 3.11-4 of this section].

TABLE 3.11-4: MAXIMUM ALLOWABLE NOISE EXPOSURE FROM TRANSPORTATION NOISE SOURCES AT NOISE-SENSITIVE LAND USES [FROM CITY OF RIVERBANK GENERAL PLAN TABLE N-1]

LAND USE	*OUTDOOR ACTIVITY AREAS (DB L_{EQ})*	*INTERIOR SPACES*	
		DB L_{DN}	*DB L_{EQ}*
Residential	60	45	--
Transient Lodging	60	45	--
Hospitals, Nursing Homes	60	45	--
Theatres, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60	--	40
Office Buildings	--	--	45
Schools, Libraries, Museums	60	--	45
Playgrounds, Neighborhood Parks	70	--	--

NOTES: NOISE-SENSITIVE LAND USES INCLUDE SCHOOLS, HOSPITALS, REST HOMES, LONG-TERM CARE, MENTAL CARE FACILITIES, RESIDENCES, AND OTHER SIMILAR LAND USES. OUTDOOR ACTIVITY AREAS ARE CONSIDERED TO BE THE PORTION OF A NOISE-SENSITIVE PROPERTY WHERE OUTDOOR ACTIVITIES WOULD NORMALLY BE EXPECTED (I.E., PATIOS OF RESIDENCES AND OUTDOOR INSTRUCTIONAL AREAS OF SCHOOLS). OUTDOOR ACTIVITY AREAS FOR THE PURPOSES OF THIS ELEMENT DO NOT INCLUDE GATHERING SPACES ALONGSIDE TRANSPORTATION CORRIDORS OR ASSOCIATED PUBLIC RIGHTS-OF-WAY. WHERE DEVELOPMENT PROJECTS OR ROADWAY IMPROVEMENT PROJECTS COULD POTENTIALLY CREATE NOISE IMPACTS, AN ACOUSTICAL ANALYSIS SHALL BE REQUIRED AS PART OF THE ENVIRONMENTAL REVIEW PROCESS SO THAT NOISE MITIGATION MAY BE INCLUDED IN THE PROJECT DESIGN. SUCH ANALYSIS SHALL BE THE FINANCIAL RESPONSIBILITY OF THE APPLICANT AND BE PREPARED BY A QUALIFIED PERSON EXPERIENCED IN THE FIELDS OF ENVIRONMENTAL NOISE ASSESSMENT AND ARCHITECTURAL ACOUSTICS. MITIGATION STRATEGIES SHALL INCLUDE SITE PLANNING AND DESIGN OVER OTHER TYPES OF MITIGATION.

SOURCE: CITY OF RIVERBANK GENERAL PLAN, NOISE ELEMENT, TABLE N-1.

- NOISE-1.5. Sound walls are prohibited as a method for reducing noise exposure that could be addressed through other means.
- NOISE-2.1. Development projects and roadway improvement projects that increase traffic noise levels shall be mitigated to achieve acceptable levels specified in Table N-1 of the General Plan [Table 3.11-4 of this section] as measured at outdoor activity areas and interior

spaces of existing and planned noise sensitive land uses. If existing noise levels exceed allowable levels in Table N-1 of the General Plan [Table 3.11-4 of this section] at noise sensitive land uses, then:

- Where existing exterior noise levels are between 60 and 65 dB L_{dn} at outdoor activity areas of noise-sensitive uses, an increase of 3 dB L_{dn} or greater is considered significant and requires mitigation to achieve allowable levels.
- Where existing exterior noise levels are greater than 65 dB L_{dn} at outdoor activity areas of noise-sensitive uses, an increase of 1.5 dB L_{dn} or greater is considered significant and requires mitigation to achieve allowable levels.
- Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn} or less using practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn} may be allowed, provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with Table N-1 of the General Plan [Table 3.11-4 of this section].

- NOISE-2.2. Development projects that produce, or are affected by, non-transportation related noise shall be mitigated to achieve acceptable levels specified in Table N-2 of the General Plan [Table 3.11-5 of this section], as measured at outdoor activity areas of existing and planned noise-sensitive land uses. If existing noise levels exceed acceptable levels in Table N-2 of the General Plan [Table 3.11-5 of this section] as measured at outdoor activity areas of noise sensitive land uses:
  - Where existing exterior noise levels are between 60 and 65 dB L_{eq} at outdoor activity areas of noise-sensitive uses, an increase of 3 dB L_{eq} or greater is considered significant and requires mitigation to achieve acceptable levels.
  - Where existing exterior noise levels are greater than 65 dB L_{eq} at outdoor activity areas of noise-sensitive uses, an increase of 1.5 dB L_{eq} or greater is considered significant and requires mitigation to achieve acceptable levels.
  - Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{eq} or less using practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{eq} may be allowed, provided that available exterior noise level reduction measures have been implemented.

TABLE 3.11-5: NOISE LEVEL PERFORMANCE STANDARDS FOR NEW PROJECTS AFFECTED BY, OR INCLUDING NON-TRANSPORTATION NOISE SOURCES [FROM THE CITY OF RIVERBANK GENERAL PLAN TABLE N-2]

NOISE LEVEL DESCRIPTOR	*DAYTIME (7 AM – 10 PM)*	*NIGHTTIME (10 PM – 7 AM)*
Hourly L_{eq}, dB	60	45
L_{max}, dB	75	65

NOTES: EACH OF THE NOISE LEVELS SPECIFIED SHALL BE LOWERED BY FIVE DB FOR SIMPLE TONE NOISES, NOISES CONSISTING PRIMARILY OF SPEECH, OR MUSIC, OR FOR RECURRING IMPULSIVE NOISES. THESE NOISE LEVEL STANDARDS DO NOT APPLY TO RESIDENTIAL UNITS ESTABLISHED IN CONJUNCTION WITH INDUSTRIAL OR COMMERCIAL USES (E.G., CARETAKER DWELLINGS).
SOURCE: CITY OF RIVERBANK GENERAL PLAN, NOISE ELEMENT, TABLE N-2.

- NOISE-2.3. The City shall require all feasible noise mitigation to reduce construction and other short-term noise and vibration impacts as a condition of approval for development

projects by applying the performance standards outlined in Table N-3 of the General Plan [Table 3.11-6 of this section]. The total noise level resulting from new sources and ambient noise shall not exceed the standards in Table N-3 of the General Plan [Table 3.11-6 of this section], as measured at outdoor activity areas of any affected noise sensitive land use except:

- If the ambient noise level exceeds the standard in Table N-3, the standard becomes the ambient level plus 5 dB(A).
- Reduce the applicable standards in Table N-3 by 5 decibels if they exceed the ambient level by 10 or more decibels.

TABLE 3.11-6: NOISE LEVEL PERFORMANCE STANDARDS FOR NON-TRANSPORTATION NOISE SOURCES [FROM THE CITY OF RIVERBANK GENERAL PLAN TABLE N-3]

CUMULATIVE DURATION OF A NOISE EVENT[1] (MINUTES)	*MAXIMUM EXTERIOR NOISE LEVEL STANDARDS[2]*	
	DAY [3,5]	*NIGHT[4,5]*
30-60	50	45
15-30	55	50
5-15	60	55
1-5	65	60
0-1	70	65

NOTES:

1. CUMULATIVE DURATION REFERS TO TIME WITHIN ANY ONE-HOUR PERIOD.

2. NOISE LEVEL STANDARDS MEASURED IN DB.

3. DAYTIME = HOURS BETWEEN 7:00 A.M. AND 10:00 P.M.

4. NIGHTTIME = HOURS BETWEEN 10:00 P.M. AND 7:00 A.M.

5. EACH OF THE NOISE LEVEL STANDARDS SPECIFIED MAY BE REDUCED BY 5 DBA FOR TONAL NOISE (I.E., A SIGNAL WHICH HAS A PARTICULAR AND UNUSUAL PITCH) OR FOR NOISES CONSISTING PRIMARILY OF SPEECH OF FOR RECURRING IMPULSIVE NOISES (I.E., SOUNDS OF SHORT DURATION, USUALLY LESS THAN ONE SECOND, WITH AN ABRUPT ONSET AND RAPID DECAY SUCH AS THE DISCHARGE OF FIREARMS).

SOURCE: CITY OF RIVERBANK GENERAL PLAN, NOISE ELEMENT, TABLE N-3.

City of Riverbank Municipal Code

Chapter 93 of the City of Riverbank Municipal Code prohibits excessive or annoying noise or vibration to residential and commercial properties in the City. The following general rules are outlined in the Municipal Code:

93.04 EXTERIOR NOISE STANDARDS

A. It is unlawful for any person at any location within the incorporated area of the city to create any noise, or to allow the creation of any noise, on property owned, leased, occupied or otherwise controlled by such person which causes the exterior noise level when measured at any affected single- or multiple-family residence, school, church, hospital or public library situated in either the incorporated or unincorporated area to exceed the noise level standards as set forth in [Table 3.11-7 of this section].

B. In the event the measured ambient noise level exceeds the applicable noise level standard, the applicable standard shall be adjusted so as to equal the ambient noise level.

TABLE 3.11-7: EXTERIOR NOISE LEVEL STANDARDS

TIME PERIOD	*ALLOWABLE EQUIVALENT HOUR SOUND LEVEL (L_{EQ})*	*ALLOWABLE MAXIMUM SOUND LEVEL (L_{MAX})*
7 a.m. – 10 p.m.	50 dBA	70 dBA
10 p.m. – 7 a.m.	45 dBA	65 dBA

SOURCE: RIVERBANK, CALIFORNIA CODE OF ORDINANCES, TITLE IX: GENERAL REGULATIONS, CHAPTER 93: NOISE

A. Each of the noise level standards specified above shall be reduced by five dB(A) for simple tone noises, noises consisting primarily of speech or music or for recurring impulsive noises.
B. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period so that the ambient noise level can be measured, the noise level measured while the source is in operation shall be compared to the noise level standards specified above.

93.05 INTERIOR NOISE STANDARDS

A. It is unlawful for any person, at any location within the city, to operate or cause to be operated within a dwelling unit, any source of sound or to allow the creation of any noise which causes the noise level when measured inside a receiving dwelling unit situated in the area either within the city or adjacent to the city to exceed the noise level standards as set forth in [Table 3.11-8 of this section]:

TABLE 3.11-8: INTERIOR NOISE LEVEL STANDARDS

TIME PERIOD	*ALLOWABLE EQUIVALENT HOUR SOUND LEVEL (L_{EQ})*	*ALLOWABLE MAXIMUM SOUND LEVEL (L_{MAX})*
7 a.m. – 10 p.m.	40 dBA	60 dBA
10 p.m. – 7 a.m.	35 dBA	55 dBA

SOURCE: RIVERBANK, CALIFORNIA CODE OF ORDINANCES, TITLE IX: GENERAL REGULATIONS, CHAPTER 93: NOISE

A. In the event the measured ambient noise level exceeds the applicable noise level standard, the applicable standard shall be adjusted so as to equal the ambient noise level.
B. Each of the noise level standards specified above shall be reduced by five dB(A) for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.
C. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period so that the ambient noise level can be measured, the noise level measured while the source is in operation shall be compared to the noise level standards specified above.

93.07 NOISE SOURCE EXEMPTIONS

The following activities shall be exempt from the provisions of this chapter:

A. Activities conducted in unlighted public parks, public playgrounds and public or private school grounds, during the hours of 7:00 a.m. to 10:00 p.m., and in lighted public parks, public playgrounds and public or private school grounds, during the hours of 7:00 am. to 11:00 p.m., including but not limited to school athletic and school entertainment events.

B. Any mechanical device, apparatus or equipment used, related to or connected with emergency activities or emergency work
C. Noise sources associated with construction provided such activities do not take place between 6:30 p.m. and 6:00 a.m. on weekdays or 5:00 p.m. and 8:00 a.m. on weekends and legal holidays.
D. Noise sources associated with agricultural activities on agricultural zoned property.
E. Noise sources associated with the collection of waste, garbage, and street sweeping.
F. Any activity to the extent regulation thereof has been preempted by state or federal law.
G. Noise sources associated with work performed by private or public utilities in the maintenance or modification of its facilities.
H. Noise sources associated with the maintenance of residential property provided such activities take place between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday or 8:00 a.m. and 7:00 p.m., Saturday, Sunday, and holidays.
I. Noise sources associated with public supported events (that is, Farmers Market, Cheese and Wine Festival, parades, and similar events.)

VIBRATION STANDARDS

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City of Riverbank does not have specific policies pertaining to vibration levels. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.11-9 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

TABLE 3.11-9: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

PEAK PARTICLE VELOCITY		HUMAN REACTION	EFFECT ON BUILDINGS
MM/SEC.	IN./SEC.		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBORN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

3.11.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines and case law, the Project will have a significant impact related to noise if it will result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project;
- A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without Project;
- For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the Project area to excessive noise levels within two miles of a public airport or public use airport; or
- For a Project within the vicinity of a private airstrip, expose people residing or working in the Project area to excessive noise levels.

The Project Area is not located within two miles of a public or private airport or airstrip. The nearest airport, the Modesto City-County Airport, is located approximately 7.0 miles south of the Project Area. Therefore, airports and airport noise are not discussed further in this analysis.

Determination of a Significant Increase in Noise Levels

TEMPORARY CONSTRUCTION NOISE IMPACTS

With temporary noise impacts (construction), identification of "substantial increases" depends upon the duration of the impact, the temporal daily nature of the impact, and the absolute change in decibel levels. Per the Policy 2.3 of the City of Riverbank General Plan restricts maximum noise levels from construction to the standards listed in Table 3.11-6. In addition, Section 93.07 of the City Municipal Code exempts noise from construction provided that the construction occurs during the allowable hours of operation, as follows:

> Noise sources associated with construction provided such activities do not take place between 6:30 p.m. and 6:00 a.m. on weekdays or 5:00 p.m. and 8:00 a.m. on weekends and legal holidays.

OPERATIONAL IMPACTS

The noise standards applicable to the Project include the relevant portions of the City of Riverbank General Plan, the Regulatory Setting section (Section 3.11.2), and the following standards. Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible;
- A 5-dB change is clearly perceptible; and
- A 10-dB change is perceived as being twice or half as loud.

As noted above, the City's Noise Ordinance exempts noise sources associated with construction provided such activities do not take place between 6:30 p.m. and 6:00 a.m. on weekdays or 5:00 p.m. and 8:00 a.m. on weekends and legal holidays. This exemption is typical of City and County noise ordinances and reflect the recognition that construction-related noise is temporary in character, is generally acceptable when limited to daylight hours, and is part of what residents of urban areas expect as part of a typical urban noise environment (along with sirens, etc.)

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project-noise conditions. Table 3.11-10 is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of

changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn}.

TABLE 3.11-10: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

AMBIENT NOISE LEVEL WITHOUT PROJECT, L_{DN}	*INCREASE REQUIRED FOR SIGNIFICANT IMPACT*
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

SOURCE: FEDERAL INTERAGENCY COMMITTEE ON NOISE (FICON)

Based on the Table 3.11-10 data, an increase in the traffic noise level of 5 dB or more would be significant where the pre-project noise levels are less than 60 dB L_{dn}, or 3 dB or more where existing noise levels are between 60 to 65 dB L_{dn}. Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 65 dB L_{dn}. The rationale for the Table 3.11-10 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: Construction of the proposed Project may generate significant noise. (Significant and Unavoidable)

During the construction of the proposed Project, including roads, water, and sewer lines and related infrastructure, noise from construction activities would add to the noise environment in the Project vicinity. As indicated in Table 3.11-11, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet.

TABLE 3.11-11: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	*MAXIMUM LEVEL, dB*	
	25 FEET	*50 FEET*
Backhoe	84	78
Compactor	89	83
Compressor (air)	84	78
Concrete Saw	96	90
Dozer	88	82
Dump Truck	82	76
Excavator	87	81
Generator	87	81
Jackhammer	94	89
Pneumatic Tools	91	85

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006.

During the construction of the Project, including roads, water, sewer lines, and related infrastructure, noise from construction activities would add to the noise environment in the Project vicinity. Existing receptors adjacent to the proposed construction activities are located north, south, west, and east of the site.

As indicated in Table 3.11-11, activities involved in construction would generate maximum noise levels ranging from 82 to 96 dB L_{max} at a distance of 50 feet. Noise would also be generated during the construction phase by increased truck traffic on area roadways. A significant Project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration and would likely occur primarily during daytime hours, consistent with the City's Noise Ordinance.

Construction could result in periods of elevated ambient noise levels and the potential for annoyance. Policy 2.3 of the City of Riverbank General Plan restricts maximum noise levels from construction to the standards listed in Table 3.11-6. In addition, Section 93.07 of the City Municipal Code exempts noisefrom construction provided that the construction occurs during the allowable hours of operation, as follows:

> Noise sources associated with construction provided such activities do not take place between 6:30 p.m. and 6:00 a.m. on weekdays or 5:00 p.m. and 8:00 a.m. on weekends and legal holidays.

Per the Table 3.11-6 standards, daytime construction noise would be limited to 70 dBA L_{max} under the City's General Plan standards. With construction noise levels ranging between 82 to 96 dBA L_{max} at 50 feet, construction noise control measures achieving a reduction of 12 to 26 dBA would be required when construction activity occurs within 50 feet of an existing residential use. This would primarily occur during construction of Village B which borders existing single-family homes to the east.

MITIGATION MEASURE(S)

Mitigation Measure 3.11-1: *Construction activities shall not occur between 6:30 p.m. and 6:00 a.m. on weekdays or 5:00 p.m. and 8:00 a.m. on weekends and legal holidays, as required by the City of Riverbank Municipal Code. This requirement shall be noted in the improvements plans prior to approval by the City's Public Works Department.*

Mitigation Measure 3.11-2: *In an effort to comply with the City General Plan standards contained in Table 3.11-6 (Table N-3 of the General Plan), all equipment shall be fitted with factory equipped mufflers, and in good working order. In addition, all staging areas shall be located as far as feasibly possible from residential areas. Further, an 8-foot-tall temporary construction sound wall shall be constructed along the east and south sides of the Project site, as shown on Figures 3.11-7. The sound barrier fencing shall consist of ½" plywood or minimum STC 27 sound curtains placed to shield nearby sensitive receptors. The plywood barrier should be free from gaps, openings, or penetrations to ensure maximum performance. These requirements shall be noted in the improvements plans prior to approval by the City's Development Services Department.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Use of a temporary construction barrier 8-feet in height would typically reduce construction noise by up to 5-6 dBA, resulting in maximum noise levels of 77-91dBA L_{max}. This would still result in construction noise levels exceeding the City's Table 3.11-6 standard of 70 dBA L_{max}. Therefore, with implementation of Mitigation Measures 3.11-1 and 3.11-2, temporary construction noise impacts would be ***significant and unavoidable***.

Impact 3.11-2: Construction of the proposed Project may result in vibration impacts. (Less than Significant with Mitigation)

The primary vibration-generating activities associated with the proposed Project would occur during construction when activities such as demolition, grading, utilities placement, and parking lot construction occur. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 50-feet or further from the on-site construction activities. At distances of 50-feet or more, construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours. Table 3.11-12 shows the typical vibration levels produced by construction placement.

TABLE 3.11-12: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	*PEAK PARTICLE VELOCITY @ 25 FEET (INCHES/SECOND)*	*PEAK PARTICLE VELOCITY @ 100 FEET (INCHES/SECOND)*
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural damage.

With the exception of vibratory compactors, the Table 3.11-12 data indicate that construction vibration levels anticipated for the Project are less than the 0.2 in/sec threshold at a distance of 25 feet. Use of vibratory compactors within 26 feet of the adjacent buildings could cause vibrations in excess of 0.2 in/sec. Sensitive receptors which could be impacted by construction-related vibrations, especially vibratory compactors/rollers, are potentially located within 26 feet, or less, from future development. It is noted that, due to the size and location of the Specific Plan Area, the vast majority of construction activities would occur at distances further than 26 feet.

MITIGATION MEASURE(S)

Mitigation Measure 3.11-3: *Any compaction required less than 26 feet from the adjacent residential structures shall be accomplished by using static drum rollers which use weight instead of vibrations to achieve soil compaction. As an alternative to this requirement, pre-construction crack documentation and construction vibration monitoring could be conducted to ensure that construction vibrations do not cause damage to any adjacent structures. This requirement shall be noted in the improvements plans prior to approval by the City's Development Services Department.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation Measure 3.11-3 requires that compaction less than 26 feet from the adjacent residential structures be accomplished by using static drum rollers which use weight instead of vibrations to achieve soil compaction. As an alternative to this requirement, pre-construction crack documentation and construction vibration monitoring could be conducted to ensure that construction vibrations do not cause damage to any adjacent structures. Implementation of the Mitigation Measure 3.11-3 will ensure that these potential impacts are reduced to a ***less-than-significant*** level. Sensitive receptors will not be subjected to vibrations in excess of 0.2 in/sec.

Impact 3.11-3: The proposed Project may generate unacceptable traffic noise levels at existing receptors. (Significant and Unavoidable)

Implementation of the proposed Project would result in an increase in ADT volumes on the local roadway network, and consequently, an increase in noise levels from traffic sources along affected segments. Tables 3.11-13 and 3.11-14 show the predicted traffic noise level increases on the local roadway network for Existing, Existing + Project, Cumulative No Project, and Cumulative + Project conditions. Appendix C of Appendix F provides the complete inputs and results of the FHWA traffic noise modeling.

TABLE 3.11-13: EXISTING AND EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	*SEGMENT*	*NOISE LEVELS (L_{DN}, dB) AT NEAREST SENSITIVE RECEPTORS*				
		EXISTING	*EXISTING + PROJECT*	*CHANGE*	*CRITERIA[1]*	*SIGNIFICANT?*
McHenry Ave	Jones Rd to River Rd	63.2	64.0	0.8	+3 dB	No
McHenry Ave	River Rd to Coffee Rd	64.7	65.7	1.0	+3 dB	No
McHenry Ave	Coffee Rd to Stewart Rd	66.5	67.7	1.3	+1.5	No
McHenry Ave	Stewart Rd to Ladd Rd	68.5	69.7	1.2	+1.5	No
McHenry Ave (SR 108)	Ladd Rd to Crawford Rd	72.6	74.0	1.4	+1.5	No
McHenry Ave (SR 108)	Crawford Rd to Kiernan Ave (SR 219)	68.4	69.7	1.3	+1.5	No
McHenry Ave (SR 108)	Kiernan Ave (SR 219) to Pelandale Ave	67.7	68.4	0.7	+1.5	No
River Rd	Murphy Rd to McHenry Ave	67.4	68.4	0.9	+1.5	No
River Rd	McHenry Ave to Harold Ave	66.7	67.0	0.3	+1.5	No
Ladd Rd	Stoddard Rd to Carver Rd	63.1	64.6	1.5	+3 dB	No
Ladd Rd	Carver Rd to McHenry Ave	69.0	70.1	1.1	+1.5	No
Patterson Rd (SR 108)	McHenry Ave to Coffee Rd	63.3	65.5	2.2	+3 dB	No
Patterson Rd (SR 108)	Coffee Rd to Oakdale Rd	64.6	66.3	1.7	+3 dB	No
Patterson Rd (SR 108)	Oakdale Rd to Jackson Ave	66.7	67.6	1.0	+1.5	No

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, dB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING	EXISTING + PROJECT	CHANGE	CRITERIA[1]	SIGNIFICANT?
Kiernan Ave (SR 219)	Tully Rd to McHenry Ave	69.9	70.3	0.3	+1.5	No
Claribel Rd	McHenry Ave to Coffee Rd	70.8	71.0	0.1	+1.5	No
Claribel Rd	Coffee Rd to Oakdale Rd	65.5	65.7	0.2	+1.5	No
Skittone Rd	Patterson Rd (SR 108) to Crawford Rd	51.5	53.7	2.2	+5 dB or >60 dB	No
Coffee Rd	Patterson Rd (SR 108) to Crawford Rd	64.4	69.5	**5.1**	**+3 dB**	**Yes**
Coffee Rd	Crawford Rd to relocated Claribel Rd	64.6	68.4	**3.8**	**+3 dB**	**Yes**
Coffee Rd	Relocated Claribel Rd to Claribel – NCC	66.3	70.1	**3.8**	**+1.5**	**Yes**
Coffee Rd	Claribel – NCC to Claratina Ave	68.7	70.6	**1.9**	**+1.5**	**Yes**
Oakdale Rd	Patterson Rd (SR 108) to Morrill Rd	61.8	62.4	0.6	+3 dB	No
Oakdale Rd	Morrill Rd to Westgate Drive	63.6	64.1	0.5	+3 dB	No
Oakdale Rd	Westgate Drive to Claribel Rd	63.6	64.0	0.4	+3 dB	No
Oakdale Rd	Claribel Rd to Claratina Ave	66.9	67.1	0.2	+1.5	No
Morrill Rd	Coffee Rd to Oakdale Rd	63.0	63.5	0.5	+3 dB	No

SOURCE : FHWA-RD-77-108 WITH INPUTS FROM CALTRANS AND SAXELBY ACOUSTICS. 2021.

TABLE 3.11-14: CUMULATIVE AND CUMULATIVE + PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, dB) AT NEAREST SENSITIVE RECEPTORS				
		CUMULATIVE	CUMULATIVE + PROJECT	CHANGE	CRITERIA[1]	SIGNIFICANT?
McHenry Ave	Jones Rd to River Rd	63.6	64.3	0.7	+3 dB	No
McHenry Ave	River Rd to Coffee Rd	65.2	66.1	0.9	+1.5 dB	No
McHenry Ave	Coffee Rd to Stewart Rd	67.0	68.1	1.1	+1.5	No
McHenry Ave	Stewart Rd to Ladd Rd	69.1	70.2	1.1	+1.5	No
McHenry Ave (SR 108)	Ladd Rd to Crawford Rd	73.3	74.5	1.2	+1.5	No
McHenry Ave (SR 108)	Crawford Rd to Kiernan Ave (SR 219)	68.9	70.1	1.2	+1.5	No
McHenry Ave (SR 108)	Kiernan Ave (SR 219) to Pelandale Ave	69.2	69.7	0.5	+1.5	No
River Rd	Murphy Rd to McHenry Ave	67.8	68.7	0.9	+1.5	No
River Rd	McHenry Ave to Harold Ave	67.2	67.5	0.3	+1.5	No
Ladd Rd	Stoddard Rd to Carver Rd	65.8	66.6	0.8	+1.5 dB	No
Ladd Rd	Carver Rd to McHenry Ave	71.0	71.8	0.7	+1.5	No
Patterson Rd (SR 108)	McHenry Ave to Coffee Rd	64.4	66.2	1.8	+3 dB	No
Patterson Rd (SR 108)	Coffee Rd to Oakdale Rd	65.4	66.9	1.5	+3 dB	No
Patterson Rd (SR 108)	Oakdale Rd to Jackson Ave	67.4	68.3	0.8	+1.5	No
Kiernan Ave (SR 219)	Tully Rd to McHenry Ave	71.8	72.0	0.2	+1.5	No
Claribel Rd	McHenry Ave to Coffee Rd	73.8	73.9	0.1	+1.5	No
Claribel Rd	Coffee Rd to Oakdale Rd	61.5	61.9	0.4	+1.5	No
Skittone Rd	Patterson Rd (SR 108) to Crawford Rd	51.5	53.7	2.2	+5 dB or >60 dB	No
Coffee Rd	Patterson Rd (SR 108) to Crawford Rd	65.6	69.9	**4.3**	**+1.5 dB**	**Yes**
Coffee Rd	Crawford Rd to relocated Claribel Rd	67.8	70.0	**2.2**	**+1.5 dB**	**Yes**
Coffee Rd	Relocated Claribel Rd to Claribel – NCC	70.7	72.5	**1.8**	**+1.5**	**Yes**
Coffee Rd	Claribel – NCC to Claratina Ave	69.7	71.2	**1.6**	**+1.5**	**Yes**
Oakdale Rd	Patterson Rd (SR 108) to Morrill Rd	63.9	64.3	0.4	+3 dB	No
Oakdale Rd	Morrill Rd to Westgate Drive	64.6	65.1	0.4	+3 dB	No
Oakdale Rd	Westgate Drive to Claribel Rd	65.0	65.3	0.3	+1.5 dB	No

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, dB) AT NEAREST SENSITIVE RECEPTORS				
		CUMULATIVE	CUMULATIVE + PROJECT	CHANGE	CRITERIA[1]	SIGNIFICANT?
Oakdale Rd	Claribel Rd to Claratina Ave	68.0	68.2	0.1	+1.5 dB	No
Morrill Rd	Coffee Rd to Oakdale Rd	68.7	68.8	0.1	+1.5 dB	No

SOURCE : FHWA-RD-77-108 WITH INPUTS FROM CALTRANS AND SAXELBY ACOUSTICS. 2021.

The data in Tables 3.11-13 and 3.11-14 indicate that some noise-sensitive receptors located along Project-area roadways are currently exposed to exterior traffic noise levels exceeding the City of Riverbank 60 dB L_{dn} exterior noise level standard for residential uses (shown in Table 3.11-4). These receptors would continue to experience elevated exterior noise levels with implementation of the proposed Project. Under Existing conditions, sensitive receptors located at Coffee Road exceed the City's 60 dB L_{dn} exterior noise level standard for transportation noise sources. Under Existing Plus RWSP conditions, these roadways will continue to exceed the City standards. The Project's contributions range between 1.9 dB and 5.1 dB L_{dn}. These increases exceed the FICON criteria outlined in Table 3.11-10.

Under Cumulative conditions, sensitive receptors located adjacent to Coffee Road exceed the City's 60 dB L_{dn} exterior noise level standard for transportation noise sources. Under Cumulative Plus RWSP conditions, these roadways will continue to exceed the City standards. The Project's contributions range between 1.6 dB and 4.3 dB L_{dn}. These increases exceed the FICON criteria outlined in Table 3.11-10.

Tables 3.11-13 and 3.11-14 indicate where increases in traffic noise levels due to the Project exceed the FICON criteria for increases in traffic noise. Table 3.11-15 indicates where significant traffic noise increases will occur, and the segments which the Project would result in an exceedance of the City of Riverbank exterior noise levels standard, under the Cumulative Plus RWSP condition.

TABLE 3.11-15: SIGNIFICANT TRAFFIC NOISE INCREASES - CUMULATIVE AND CUMULATIVE PLUS RWSP TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, DB) AT 75-FEET FROM CENTERLINE				
		CUMULATIVE	CUMULATIVE + RWSP	CHANGE	SIGNIFICANT?[1]	CREATES NEW EXCEEDANCE[2]?
Coffee Rd	Patterson Rd (SR 108) to Crawford Rd	65.6	69.9	4.3	**Yes**	No
	Crawford Rd to relocated Claribel Rd	67.8	70.0	2.2	**Yes**	No
	Relocated Claribel Rd to Claribel – NCC	70.7	72.5	1.8	**Yes**	No
	Claribel – NCC to Claratina Ave	69.7	71.2	1.6	**Yes**	No

NOTES: 1. A SIGNIFICANT IMPACT IS DETERMINED BY THE FICON CRITERIA IN TABLE 3.11-10.
2. AN EXCEEDANCE OF CITY STANDARDS IS DETERMINED BY THE CITY OF RIVERBANK EXTERIOR NOISE LEVEL STANDARDS IN TABLE 3.11-4.
SOURCE: SAXELBY ACOUSTICS LLC, 2021.

Based upon Tables 3.11-13, and 3.11-14, the Project would cause increased noise levels exceeding the FICON substantial increase criteria shown in Table 3.11-10, which would be a **potentially significant** impact.

Potential mitigation measures would require increasing the height of existing sound walls, building new off-site sound walls, including traffic calming measures to reduce vehicle speeds, and/or using quieter pavement technologies. Generally, construction of new sound walls is not practical due to the openings for driveway accesses which would compromise any barrier effectiveness. Increasing the heights of existing sound walls requires additional engineering of footings and is also not practical. Additionally, City General Plan Policy NOI 1.5 states that "[s]ound walls are prohibited as a method for reducing noise exposure that could be addressed through other means." Sound walls are not feasible or recommended in this case. Traffic calming measures generally have not been found to reduce overall traffic noise levels by a significant amount.

The use of quiet pavement technologies is the most practical mitigation measure and would generally reduce traffic noise levels between 3 and 5 dB. Under the Cumulative scenario shown in Table 3.11-15, each roadway segment which shows a significant impact could include future overlays of alternative quiet pavement. Assuming a minimum reduction of 3 dBA, quiet pavement placed along sensitive receptor areas on the previously listed roadway segment could reduce Project noise level increases, as outlined below:

- **Coffee Road from Patterson Road (SR 108) to Claratina Avenue** – noise levels are predicted to increase by 1.6 to 4.3 dB without mitigation. Use of quiet pavement would reduce these increases to approximately 0.0 to 1.3 dBA, depending on the performance of the quiet pavement. Approximately 6,600 feet (approximately 1.25 miles) of quiet pavement would be required. See Figure 3.11-3 for approximate required pavement locations.

With the use of quiet pavement on Coffee Road, noise level increases are expected to be in the range of 0.0 to 1.3 dBA. Approximately 6,600 feet (approximately 1.25 miles) of quiet pavement would be required. See Figure 3.11-3 for approximate required pavement locations. However, the implementation of quiet pavement on Coffee Road may not be considered practical or feasible due to overall costs and long-term maintenance coordination and requirements. Therefore, with traffic noise impacts would be ***significant and unavoidable***.

Impact 3.11-4: The proposed Project may be subject to shooting range noise at new sensitive receptors. (Significant and Unavoidable)

The Modesto Rifle Club is located within the Project Area at 1041 Patterson Road. This is just outside the Specific Plan Area. The Modesto Rifle Club is a private cub with shooting range that is open to members and non-paying guests only. Proposed land uses in the vicinity of the Club include Reserve, Low Density Residential, Dual Use Park/Ponding Basin, and Buffer/Greenway/Open Space – Bluff. The Reserve category is intended for land that the City has not yet planned for a specific urban, agricultural, or resource land use. The Low Density Residential land use designation includes single-family homes, one to each lot, developed at a net density of up to eight dwelling units per acre. Residential uses could be located near the Modesto Rifle Club. Anticipated noise levels at the nearest receptors were predicted as part of the noise analysis.

As shown in Figure 3.11-2, the maximum noise levels emanating from the shooting range are predicted to exceed the City of Riverbank 70 dBA L_{max} standard on Villages D, E, F, H, I, J, P, and Q

without mitigation. Saxelby Acoustics developed noise control solutions to reduce the maximum noise level to below 70 dBA at as many of the Specific Plan residential Villages as possible. The result of the analysis is provided below, and the full technical report is included in Attachment 1 of Appendix F.

Shooting range noise control may be achieved by the addition of an acoustically absorptive sound wall, partial enclosure of the shooting area, and acoustical panels in the pistol range area. The following noise control measures, the first four of which, as well as the sixth, would have to be implemented at the shooting range, although they would be funded by the Specific Plan applicants. These would be required to fully mitigate the impact for the full Specific Plan Area:

1. Two 180-foot-long sound walls with acoustically absorptive treatment should span the eastern boundary of the rifle range. The first wall should be 20 feet tall and connect directly to the shooting range enclosure, allowing no gaps. The second wall should be 25 feet tall and be located directly north of the first wall and offset approximately 20 feet to the east (along the eastern boundary of the rifle range). The base elevation for the walls should be greater than or equal to the elevation of the shooting line. The inner side of the newly constructed walls (facing west) must be acoustically absorptive to prevent reflection of shooting noise**.** Figure 3.11-4 shows the proposed location of the sound walls. This analysis specifically assumes use of Kinetics NOISEBLOCK perforated metal acoustical panels.
2. The existing rifle shooting range cover should be enclosed on the eastern side as shown in Figure 3.11-4. The enclosure should span from the floor to ceiling and have no gaps or penetrations that would allow sound to pass though. The enclosure should consist of minimum ¾" plywood with acoustical panels covering the inside walls, facing the shooting line. This analysis specifically assumes use of Kinetics KNP perforated metal acoustical panels.
3. The left sound wall of the pistol range should be treated with an acoustically absorptive treatment, as shown on Figure 3.11-4. This analysis specifically assumes use of Kinetics KNP perforated metal acoustical panels.
4. Acoustic absorption should be added above the shooting line and at the rear wall of the left side of the rifle shooting line, as shown on Figure 3.11-4. This analysis specifically assumes use of Kinetics KNP perforated metal acoustical panels.
5. In addition to modifications of the Modesto Rifle Club property, typical masonry type sound walls are required in the Specific Plan Area. Figure 3.11-5 shows the locations of the recommended sound walls within the Plan Area.

As shown on Figure 3.11-5, implementation of these five noise control measures would reduce maximum noise levels to below 70 dB on Villages D, F, H, I, J, and Q as well as a partial section of Village E.

Shooting range noise control may be further improved by enclosing the back (south side) of the rifle range firing line, as described below:

6. Fully enclose the rear (south) side of the rifle shooting line. A 4-foot-wide covered exit walkway may be constructed which allows access from the south, as shown on Figure 3.11-6. The enclosure should span from the floor to ceiling and have no gaps or penetrations that would allow sound to pass though. The enclosure should consist of minimum ¾" plywood with acoustical panels covering the inside walls, facing the shooting line. This analysis specifically assumes use of Kinetics KNP perforated metal acoustical panels.

As shown on Figure 3.11-7, implementation of these six noise control measures would reduce maximum noise levels to below 70 dB on all proposed villages. It should be noted that this analysis examines the use of sound walls, as no other means of reducing noise levels from shooting activities exist. Use of vegetation is not practical as 100 feet of dense evergreen vegetation of sufficient height to block line of site from the shooting range to the project site would only yield a 5 dBA reduction. Use of additional setbacks is also not feasible as large portions of the project site would be impacted by shooting range noise, as shown by Figure 3.11-2.

Successful implementation of both of the following mitigation measures set forth below would ensure that potential rifle range noise impacts are reduced to a less-than-significant level. Figure 3.11-8 shows the resulting noise levels on the project site with implementation of Mitigation Measure 3.11-4, which requires the construction of 8- to 10-foot-tall sound walls on the project site. Based upon this Figure, which assumes that the construction of the improvements called for in Mitigation Measure 3.11-5 does not occur, noise levels from shooting range operations are predicted to range from 71 to 79 dBA L_{max}, after construction of on-site sound walls. This would exceed the City of Riverbank 70 dBA L_{max} noise standard by up to 9 dBA for daytime shooting events. Therefore, this would remain a ***significant and unavoidable*** impact.

MITIGATION MEASURE(S)

Mitigation Measure 3.11-4: *The following noise control measures shall be required in the improvements plans for Villages D, E, F, H, I, or J (or any other on-site areas which may be subject to noise resulting from the shooting range), prior to approval by the City's Public Works Department:*

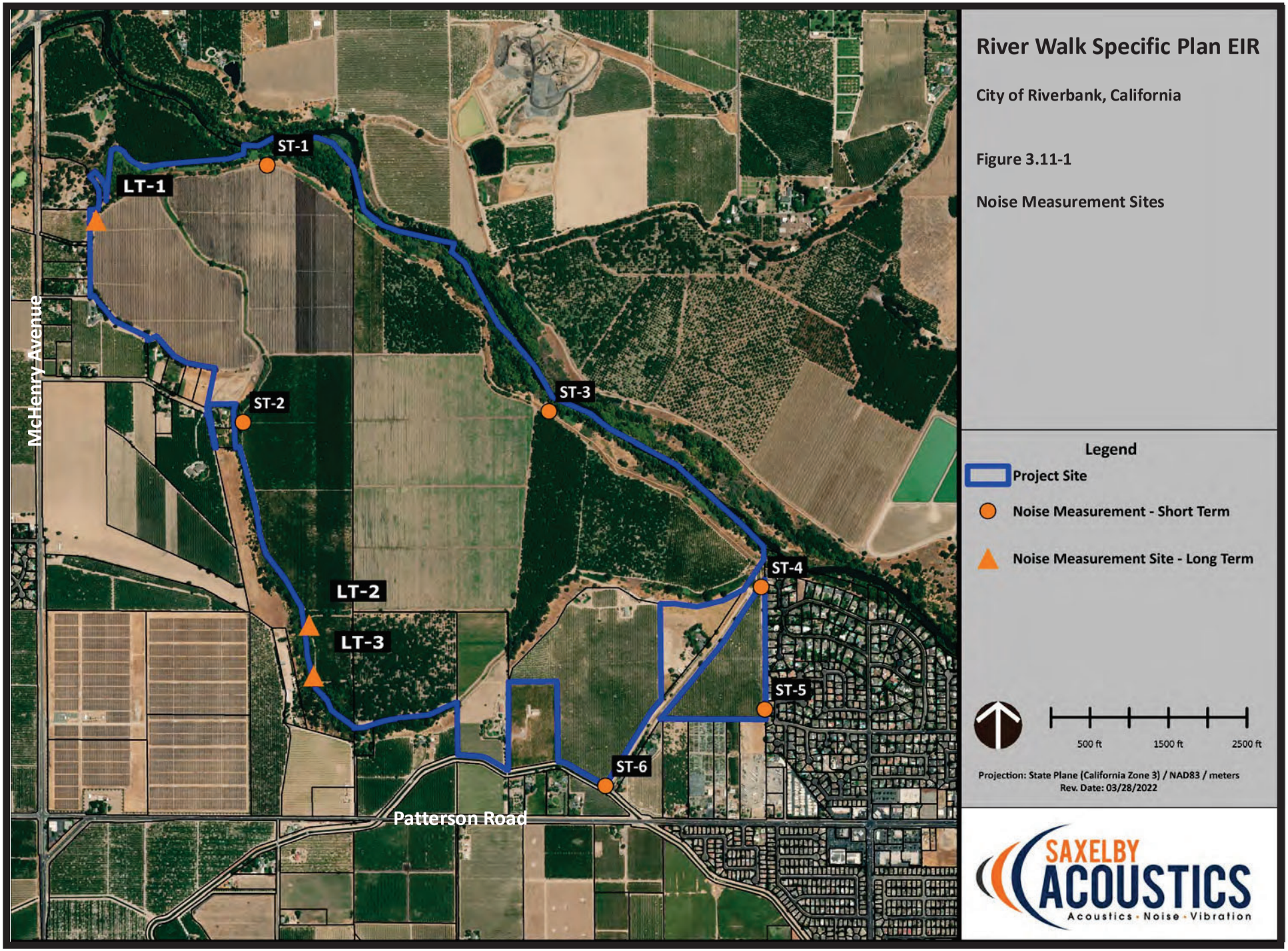
1. *Typical masonry type sound walls shall be constructed in the Specific Plan Area. Figure 3.11-5 shows the locations of the recommended sound walls.*

Mitigation Measure 3.11-5: *The project proponent shall request the owner of the Modesto Rifle Club to make the following improvements on the Modesto Rifle Club's property, at the project proponent's own expense. It is noted that these noise control measures are not located within the boundary of the Project, and are not controlled by the Project proponent. As such, it cannot be guaranteed that the owners of the shooting range will allow these improvements to be made on their property by the Project proponent:*

1. *Two 180-foot-long sound walls with acoustically absorptive treatment should span the eastern boundary of the rifle range. The first wall should be 20 feet tall and connect directly to the shooting range enclosure, allowing no gaps. The second wall should be 25 feet tall*

and be located directly north of the first wall and offset approximately 20 feet to the east (along the eastern boundary of the rifle range). The base elevation for the walls should be greater than or equal to the elevation of the shooting line. The inner side of the newly constructed walls (facing west) must be acoustically absorptive to prevent reflection of shooting noise. Figure 3.11-4 shows the proposed location of the sound walls. This measure specifically assumes use of Kinetics NOISEBLOCK perforated metal acoustical panels.

2. *The existing rifle shooting range cover should be enclosed on the eastern side as shown in Figure 3.11-4. The enclosure should span from the floor to ceiling and have no gaps or penetrations that would allow sound to pass though. The enclosure should consist of minimum ¾" plywood with acoustical panels covering the inside walls, facing the shooting line. This measure specifically assumes use of Kinetics KNP perforated metal acoustical panels.*
3. *The left sound wall of the pistol range should be treated with an acoustically absorptive treatment, as shown on Figure 3.11-4. This measure specifically assumes use of Kinetics KNP perforated metal acoustical panels.*
4. *Acoustic absorption should be added above the shooting line and at the rear wall of the left side of the rifle shooting line, as shown on Figure 3.11-4. This measure specifically assumes use of Kinetics KNP perforated metal acoustical panels.*
5. *Fully enclose the rear (south) side of the rifle shooting line. A 4-foot-wide covered exit walkway may be constructed which allows access from the south, as shown on Figure 3.11-6. The enclosure should span from the floor to ceiling and have no gaps or penetrations that would allow sound to pass though. The enclosure should consist of minimum ¾" plywood with acoustical panels covering the inside walls, facing the shooting line. This measure specifically assumes use of Kinetics KNP perforated metal acoustical panels.*



River Walk Specific Plan EIR

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Figure 3.11-1

Noise Measurement Sites

Legend

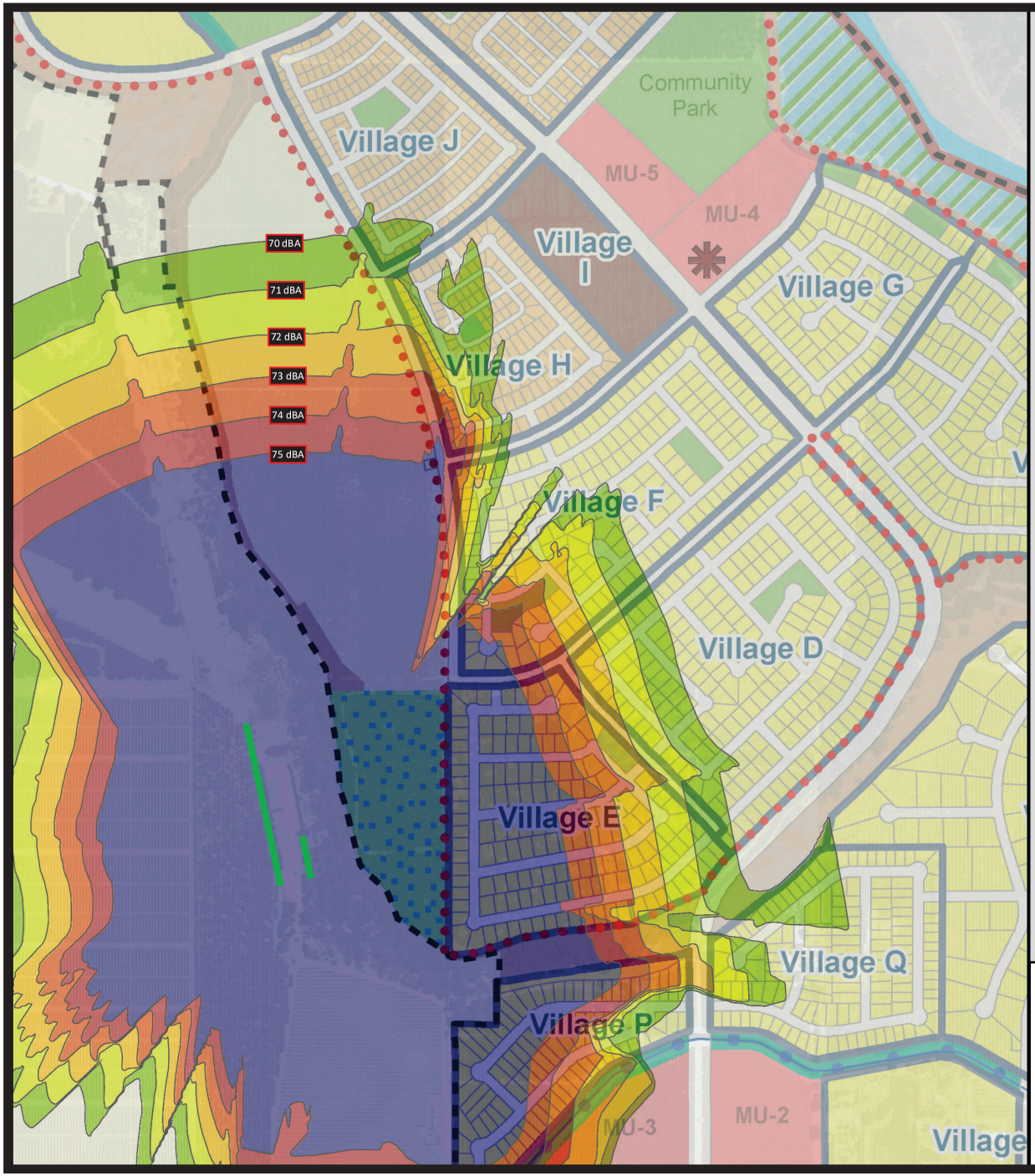
- Project Site
- Noise Measurement - Short Term
- Noise Measurement Site - Long Term

500 ft 1500 ft 2500 ft

Projection: State Plane (California Zone 3) / NAD83 / meters
Rev. Date: 03/28/2022

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City of Riverbank, California

Figure 3.11-2

Existing Shooting Range Noise Contours

(dBA L^{max})

Noise Level, dB(A)

- < 70
- 70 – 71
- 71 – 72
- 72 – 73
- 73 – 74
- 74 – 75
- > 75

Legend

- Built-up area
- Existing Wall

Scale 1:725

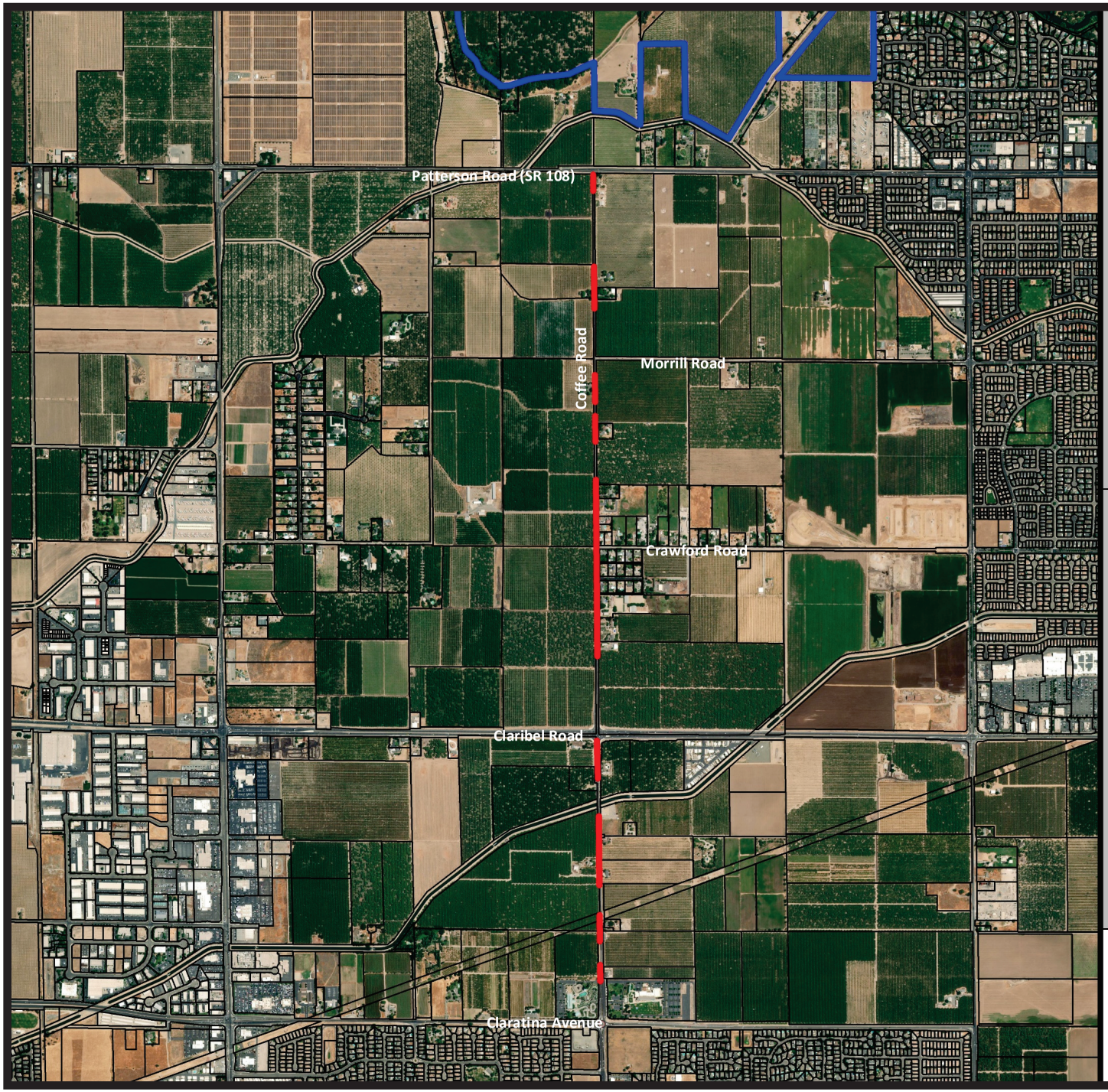
0 250 500 1000 1500 2000 feet

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River Walk Specific Plan

City of Riverbank, California

Figure 3.11-3

Quiet Pavement Locations

Legend

- Project Site
- Recommended Quiet Pavement

0 mi 0.25 mi 0.5 mi

Projection: State Plane (California Zone 3) / NAD83 / meters
Rev. Date: 03/28/2022

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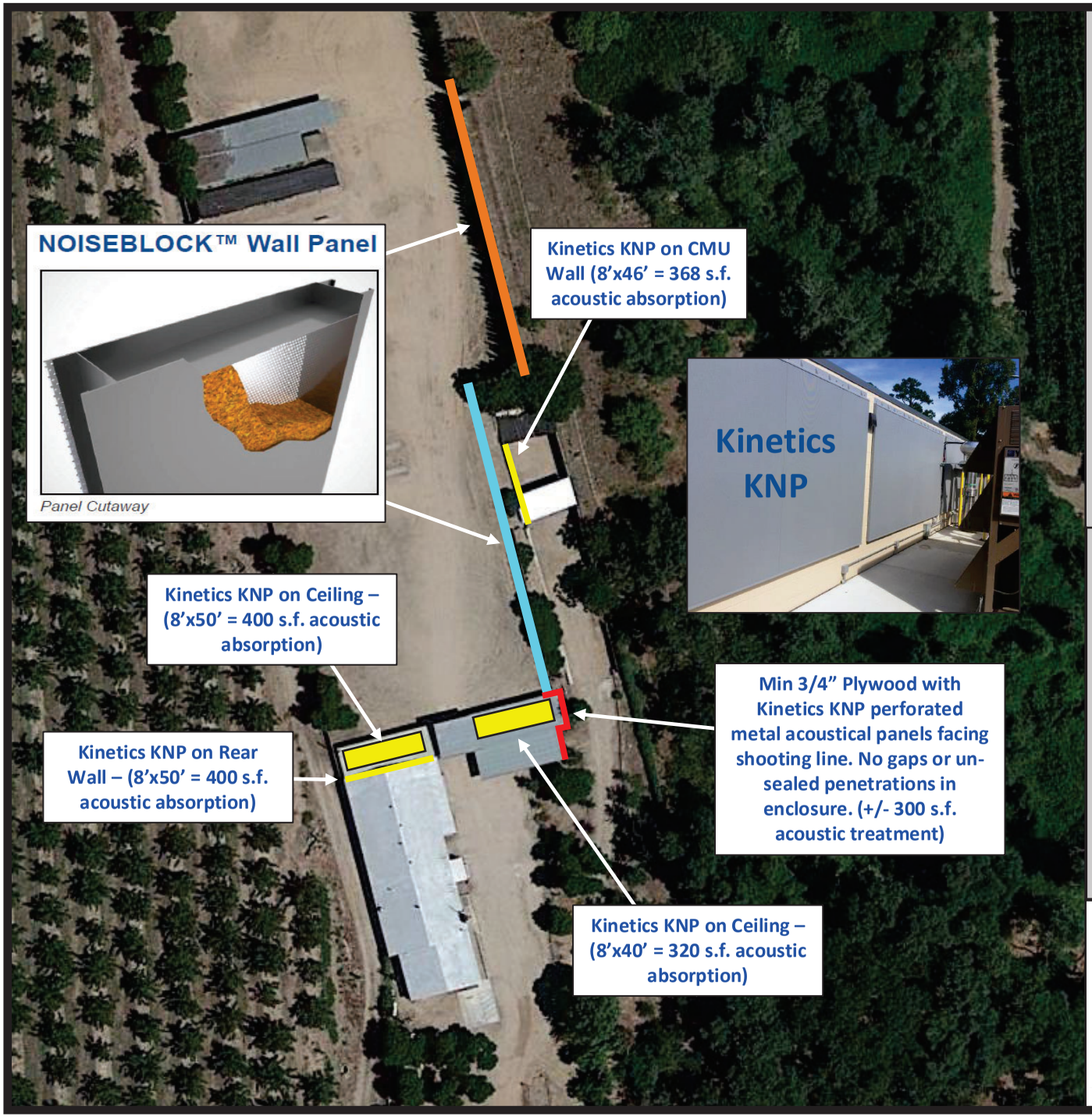
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River Walk Specific Plan EIR

City of Riverbank, California

Figure 3.11-4

Partial Shooting Range Noise Control Measures

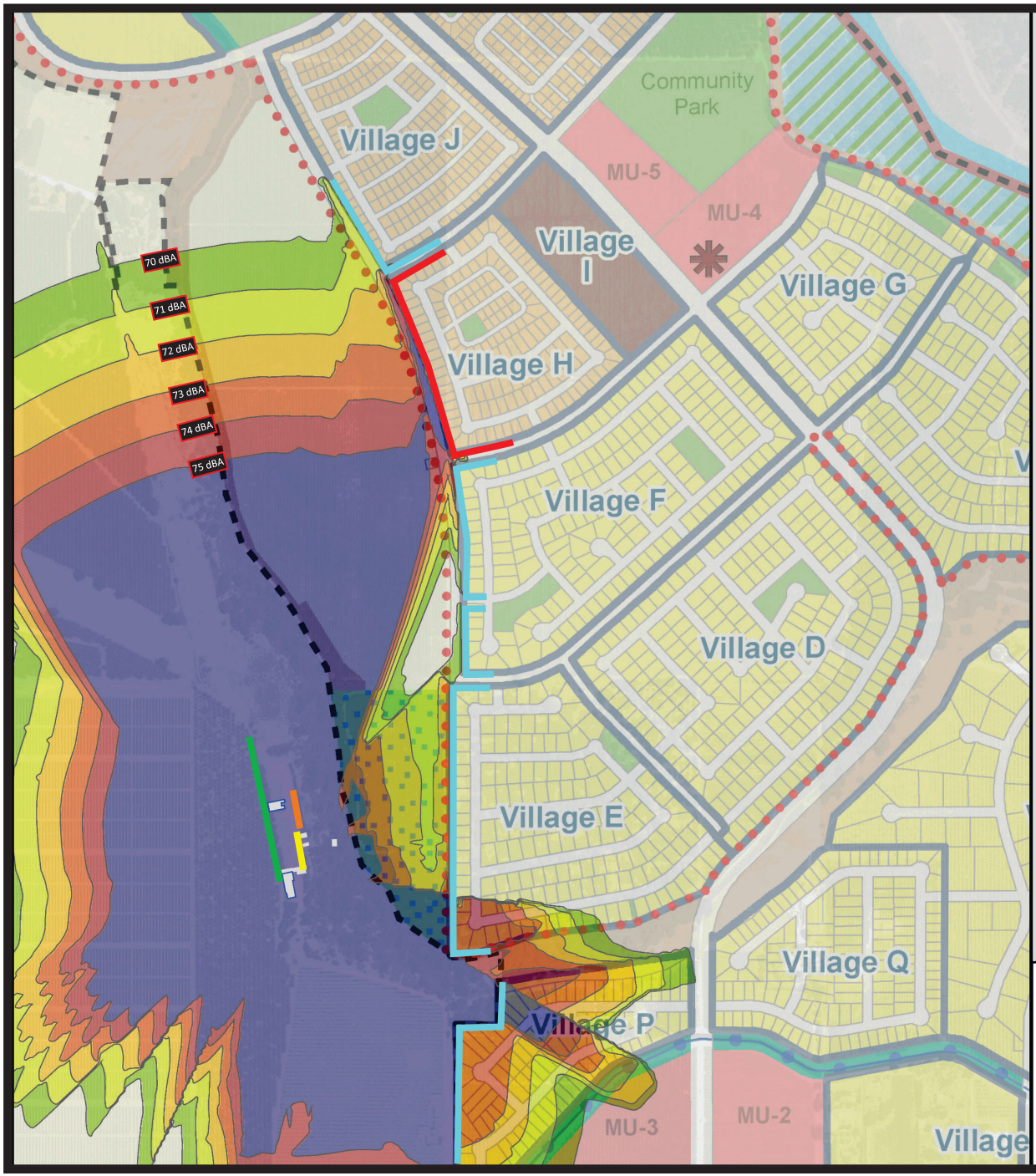


Legend

- : 20-foot Tall Sound Wall
- : 25-foot Tall Sound Wall
- : Shooting Range Enclosure
- : Kinetics KNP Acoustically Absorptive Panels on Existing Wall or Ceiling

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Figure 3.11-5

Predicted Shooting Range Noise Contours – Partial Enclosure (dBA L^{max})

Noise Level, dB(A)

- < 70
- 70 – 71
- 71 – 72
- 72 – 73
- 73 – 74
- 74 – 75
- > 75

Legend

- Building
- Existing Sound Wall
- 8-foot Sound Wall
- 10-Foot Sound Wall
- 20-Foot Sound Wall
- 25-Foot Sound Wall

Scale 1:725

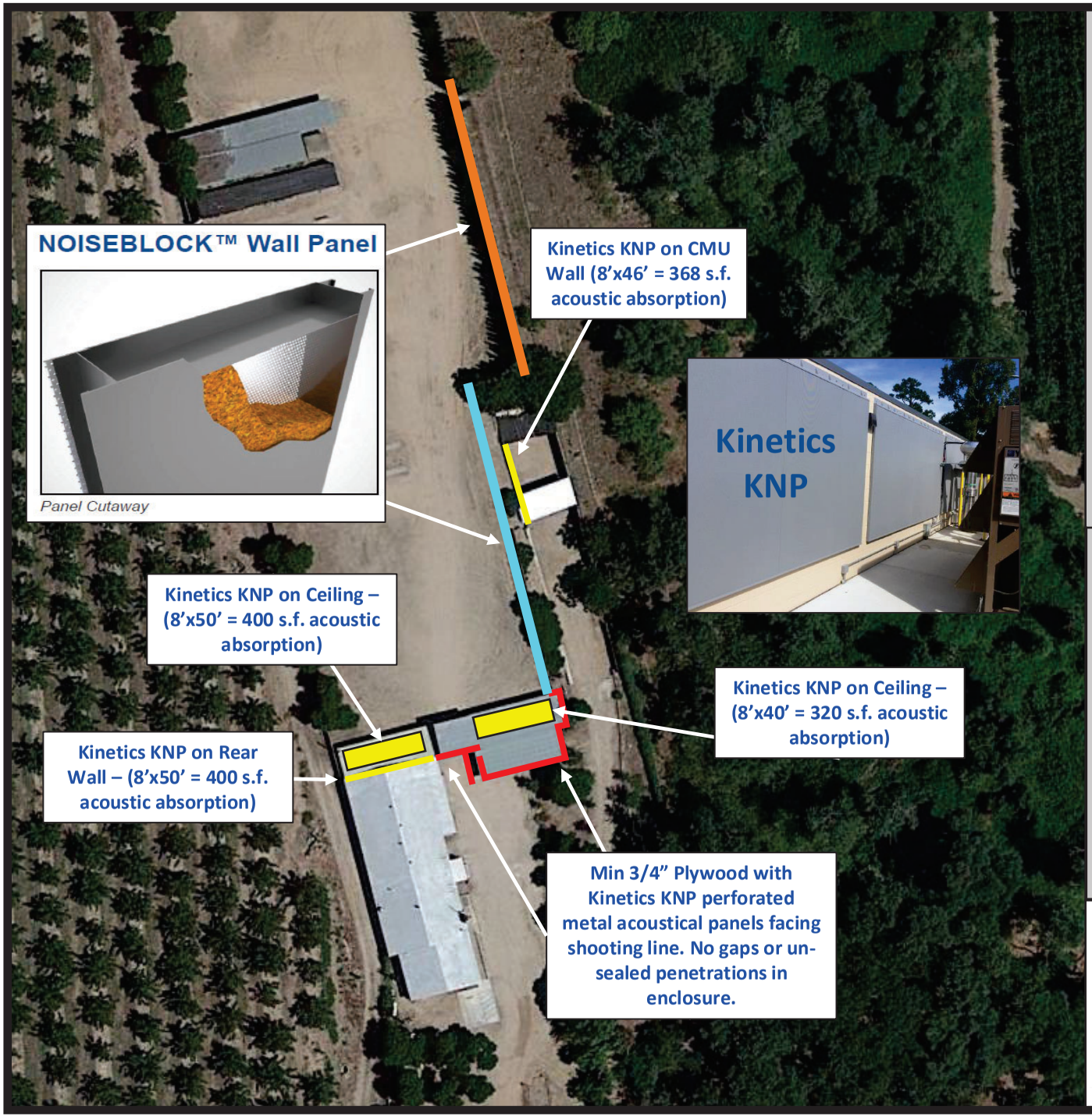
0 250 500 1000 1500 2000 feet

N

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River Walk Specific Plan EIR

City of Riverbank, California

Figure 3.11-6

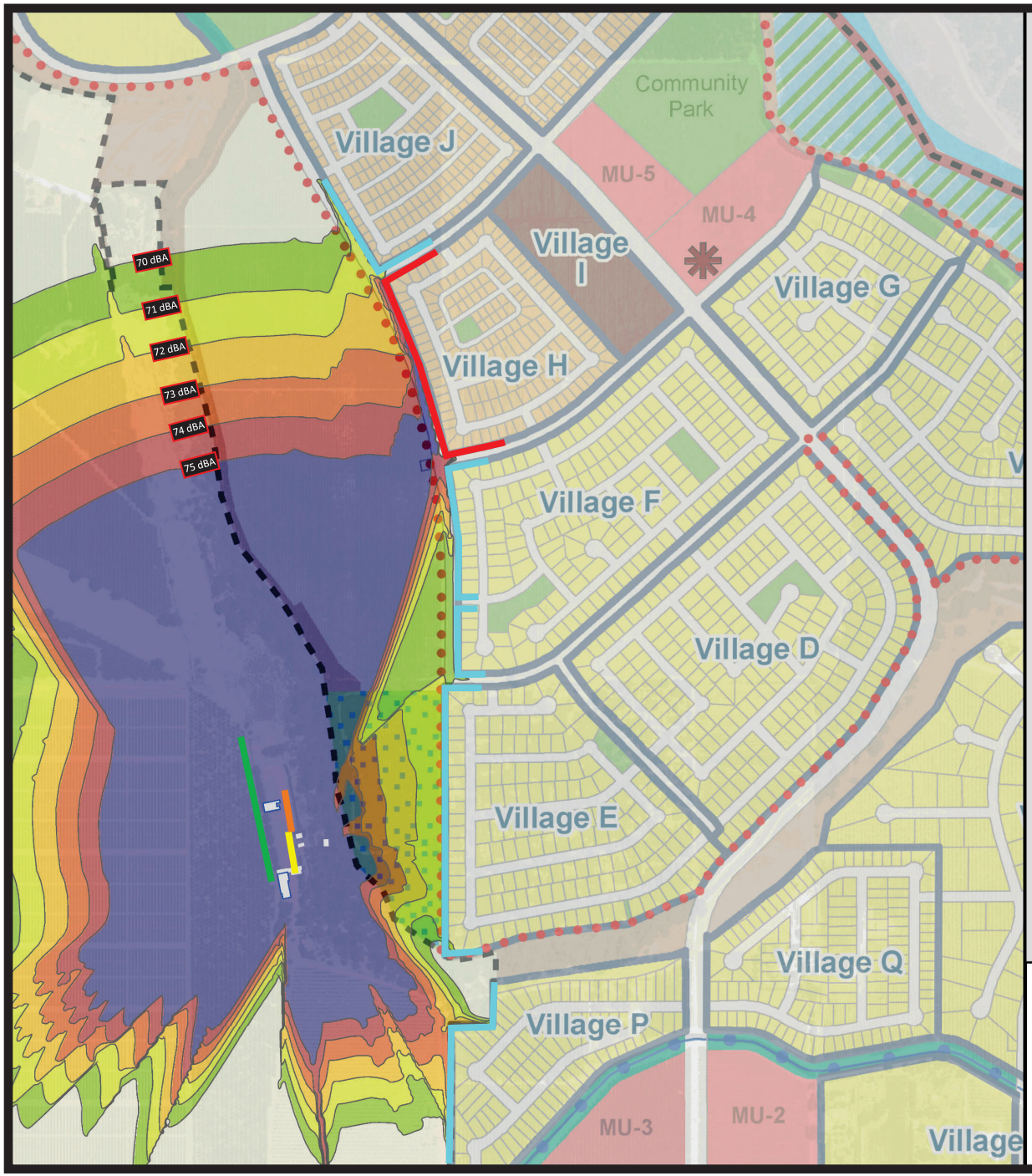
Full Shooting Range Noise Control Measures

Legend

- : 20-foot Tall Sound Wall
- : 25-foot Tall Sound Wall
- : Shooting Range Enclosure
- : Kinetics KNP Acoustically Absorptive Panels on Existing Wall or Ceiling

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River Walk Specific Plan EIR

City of Riverbank, California

Figure 3.11-7

Predicted Shooting Range Noise Contours – Complete Enclosure (dBA L^{max})

Noise Level, dB(A)

- < 70
- 70 – 71
- 71 – 72
- 72 – 73
- 73 – 74
- 74 – 75
- > 75

Legend

- Building
- Existing Sound Wall
- 8-foot Sound Wall
- 10-Foot Sound Wall
- 20-Foot Sound Wall
- 25-Foot Sound Wall

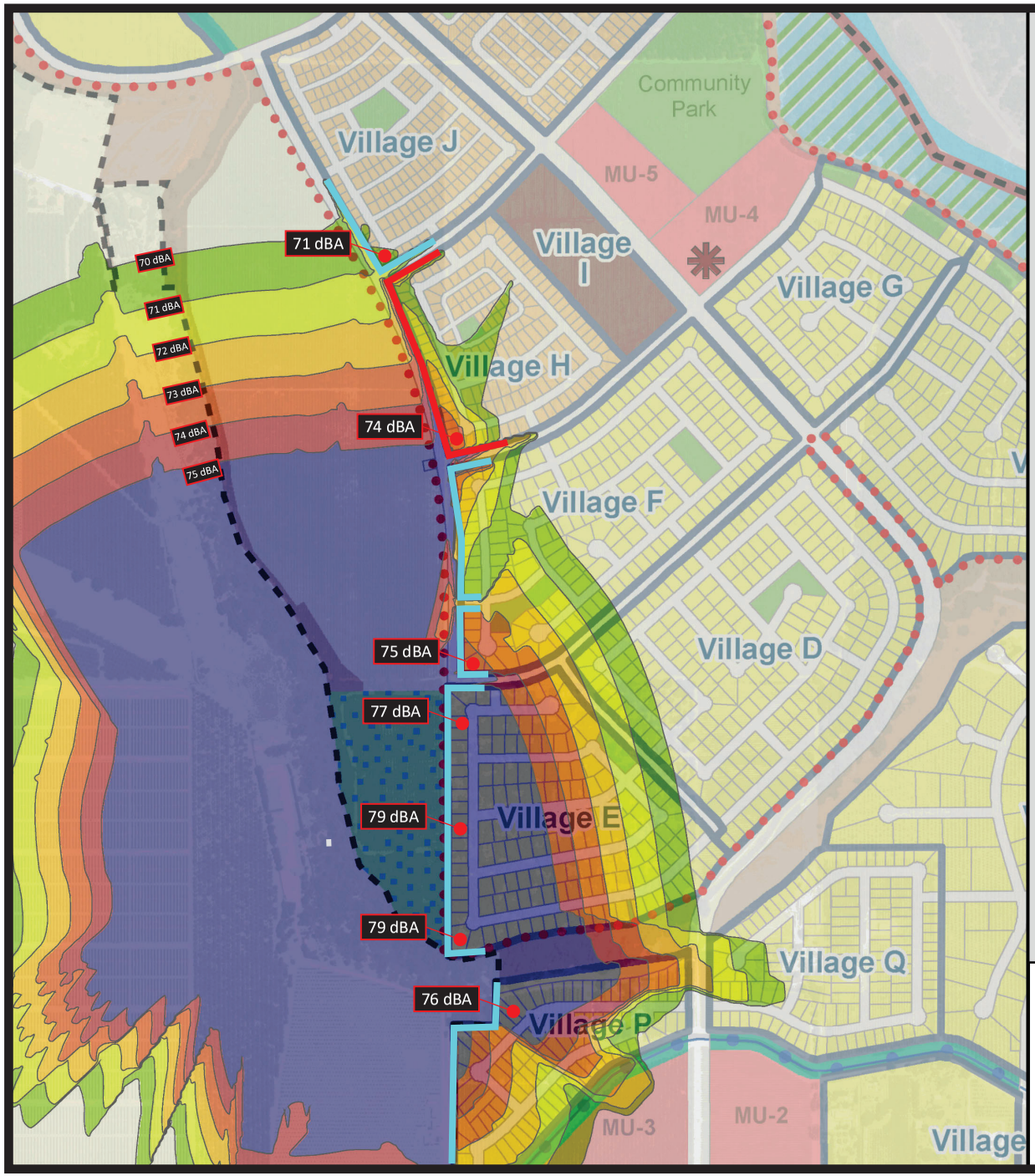
Scale 1:725

0 250 500 1000 1500 2000 feet

N

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City of Riverbank, California

Figure 3.11-8

Predicted Shooting Range Noise Contours – Community Sound Walls Only (dBA L^{max})

Noise Level. dB(A)

- < 70
- 70 – 71
- 71 – 72
- 72 – 73
- 73 – 74
- 74 – 75
- > 75

Legend

- 8-foot Sound Wall
- 10-Foot Sound Wall

Scale 1:725

0 250 500 1000 1500 2000 feet

N

SAXELBY ACOUSTICS

Acoustics • Noise • Vibration

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This section describes and evaluates potential impacts associated with the provision of police protection, fire protection and emergency services, parks and recreation, schools, and other public facilities for the proposed Project. The information in this section is primarily derived from the *City of Riverbank General Plan 2005-2025* (City of Riverbank, 2009), the *City of Riverbank Draft Environmental Impact Report for the 2005-2025 General Plan Update* (City of Riverbank, 2008), and *Municipal Services Review & Sphere of Influence Update* (City of Riverbank, 2016).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the Stanislaus County Land Agency Formation Commission (LAFCO), Annabel and Allen Gammons, Bernard & Jami Aggers, Evelyn Halbert, Centeral Valley Concerned Citizens, Centeral Valley Regional Water Quality Control Board, Susan Wedegaertner, and Betsy Waltson. Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.12.1 ENVIRONMENTAL SETTING

Governmental Agencies receive funds for the provision of public services through development fees, property taxes, and connection and usage fees. As land is developed within the City and annexed into the City of Riverbank, these fees apply. The City of Riverbank, and other service providers, review these fee structures on an annual basis to ensure that they provide adequate financing to cover the provision of services. The service provider is responsible for continual oversight to ensure that the fee structures are adequate, and that they are collected prior to development. The service provider reviews the referenced fees and user charges on an annual basis to determine the correct level of adjustment required to reverse any deficits and assure funding for needed infrastructure going forward.

POLICE SERVICES

The City of Riverbank is served under contract by the Stanislaus County Sheriff through Riverbank Police Services. Riverbank's police station is located at 6727 Third Street in downtown Riverbank. Staffing includes one Lieutenant (Chief of Police), two Sergeants, 15 Deputy Sheriffs/Detectives, one Supervising Legal Clerk, two Legal Clerks and one Community Service Officer. In total, 18 sworn officers provide police services within the City of Riverbank.

General Plan Policy PUBLIC 8.2 establishes a goal or future target for the City to provide 1.25 sworn officers per 1,000 residents; however, the contract between the Stanislaus County Sheriff and the City specifies a minimum of 0.85 officers per thousand residents.

The calculated ratio of police officers is currently 0.72 per 1,000 population based on the population estimate of 25,133 (2020). This is well below the City's goal of 1.25 sworn officers per 1,000. The City is currently understaffed by 13 sworn police officers, accordingly to this goal, however, the City has historically operated well below the 1.25 officers per 1,000 population goal. It is noted, however, that police service is evaluated and addressed annually on a citywide basis by the Riverbank City Council, City Manager and Police Chief. The City Council adopts an annual budget allocating resources to police services, which effectively establishes the service ratio for that particular year.

The annual budget is based on an assessment of community needs and available resources as determined by the City Council, City Manager, and the Police Chief.

The City receives funding for law enforcement improvements through capital improvement fees, and operational funding of the Police Department occurs through the General Fund. The Riverbank City Council, in adopting Resolutions 2016-115 and 116 on October 23, 2016, set policy that requires all new development to annex into Community Facilities District No. 2016-01 for police protection. "The increase of Police Services created by development will create an adverse impact to City financial capacity". This CFD is designed to provide additional funding beyond impact fees and property taxes for police services.

Approved and pending development projects in the City will result in additional demand for law enforcement services. Capital costs for new facilities and equipment would be funded through development impact fees, and operating costs would be funded through a combination of an increased tax base and the annexation to a new community facility district (CFD) or formation of a new CFD.

Table 3.12-1 shows the recent crime statistics for the City of Riverbank between 2017 and 2019.

TABLE 3.12-1: RIVERBANK POLICE DEPARTMENT CRIME STATISTICS (2017-2019)

CATEGORY/CRIME	*2017*	*2018*	*2019*
Total Violent Crimes	40	24	24
Homicide	0	0	1
Rape	1	0	3
Robbery	21	13	7
Assault	18	11	13
Total Property Crimes	562	447	375
Burglary	73	67	49
Motor Vehicle Theft	58	54	53
Larceny	431	326	273
Arson	2	0	3

SOURCE: FBI CRIME STATISTICS; HTTPS://UCR.FBI.GOV/.

FIRE SERVICES

Stanislaus Consolidated Fire Protection District (SCFPD) provides fire protection and first response to emergencies for the City of Riverbank, as well as the unincorporated area within its Sphere of Influence. SCFPD has 6 fire stations throughout Stanislaus County covering a service area of 199 square miles with an annual operating budget of $12.1 million. Last year SCFPD handled over 6,000 calls with 56 full-time, 2 part-time, and 5 interns.

The SCFPD Admin Office is located in Riverbank. SCFPD Station No. 26, located at 3318 Topeka Street, serves the City of Riverbank 24-hours a day with 3 personnel and a battalion chief on each shift. This station houses 2 type-1 engines, 1 grass rig, 1 light duty rescue, and a water rescue boat. This station is located approximately 1.9 miles from the closest Specific Plan Area boundary and approximately 4.4 miles from the farthest Specific Plan Area boundary.

The Salida Fire Protection District Station 13 is the closest fire station located approximately 1.1 mile west of the to the Project Area. This station is located approximately 2.1 miles away from the Coffee Road entrance into the Specific Plan Area, and approximately 2.5 miles away from the entrance off of McHenry Avenue. The Salida Fire Protection District operates one 24-hour staffed engine company, supported by volunteer/reserves, to provide fire protection and first response to emergencies to the communities of Salida and Del Rio as well as the Wood Colony. The Salida Fire Protection District Station 13 could serve the Specific Plan Area under mutual aid agreements.

In 2021, SCFPD Station No. 26 received 1,734 calls for service. Out of this, 62 calls were fire related, 1,088 were EMS/Rescue related and 203 were considered good intent. Table 3.12-2 below breaks down the calls for service that Fire Station No. 26 received in 2021.

TABLE 3.12-2: STATION NO. 26 INCIDENT TYPE RESPONSE SUMMARY (2021)

CALL TYPE	*NUMBER OF CALLS*
Fire	62
EMS/Rescue	1,088
Hazardous Condition	32
Service Call	157
Good Intent	203
False Call	45
Rupture/Explosion	0
Severe Weather	0
Other	3
Total	1,734

SOURCE: STANISLAUS COUNTY FIRE PROTECTION DISTRICT, 2021

The FY 2018-2019 final budget revenue for SCFPD was $14,757,856. Of this, approximately $6,980,054 came from special assessments, $3,006,056 came from secured property taxes, and $3,984,350 came from contract revenue from the City of Oakdale.

The SCFPD operates with funds from two primary sources, property taxes and the Special Benefit Assessment passed in December 2004. The Special Benefit Assessment replaced the prior assessments from the former Empire Fire Protection District, Waterford-Hickman Fire Protection District, Riverbank Fire Protection District and the 2003 Crossroads Assessment. The current assessment ensures all constituents in the district pay the same for the existing fire services provided. The district is currently working to ensure all major new development pay for the impact caused to the District to continue to provide emergency services, without further impacting existing taxpayers.

Effective September 1, 2014, SCFPD entered into a five-year contract to provide services to the City of Oakdale and the Oakdale Fire Protection District (OFPD). However, the contracts with the City of Oakdale and Oakdale Rural Fire District expired on June 30, 2019 and they did not renew the contracts for services. Due to the financial impact of losing these two contracts for services, the District made significant changes in its operations. SFPD closed station 23, reduced the hiring process, staffed station 24 with a 4/4 staffing model, and reduced the administration staff. For fiscal

year 20-21, the District increased the special assessment by 3% and engaged with Fire Recovery USA to increase fee revenue.

ISO RATING

The Insurance Services Office (ISO) Public Protection Classification Program currently rates the overall Fire District as Class 3 on a scale of 1 to 10, with 1 being the highest possible protection rating and 10 being the lowest. The ISO rating measures individual fire protection agencies against a Fire Suppression Rating Schedule, which includes such criteria as facilities and support for handling and dispatching fire alarms, first-alarm response and initial attack, and adequacy of local water supply for fire-suppression purposes.

As included in General Plan Policy PUBLIC 7.5, the City's goal is for an ISO rating of Class 2. The ISO rating (Public Protection Classification [PPC]) is completed whenever it appears that there is a possibility of a classification change. The ISO rating measures and evaluates information on fire suppression capabilities. The City of Riverbank currently holds an ISO rating of three (3) within the city limits[1].. According to the City's 2016 Municipal Service Review, staff has indicated that in order to meet the City's goal of Class 2, the District would need to increase staffing and expand their number of fire stations.

The City of Riverbank and SCFPD will work cooperatively to ensure new development pays its fair share for facilities associated with new growth. The imposition of Fire Mitigation Fees to provide the financial tools necessary to guarantee capacity will be available in the future. In addition, the General Plan recognizes the need for increased fire services for new development and sets forth polices that support fire protection staffing, facilities, and minimum fire flow requirements.

PARKS AND RECREATION

The Riverbank Parks and Recreation Department's mission is to provide community through people, parks, and programs. The Department is continually expanding its services and offers a variety of recreation, cultural, and social activities for all ages and abilities within the City of Riverbank.

The Recreation and Park Development Division oversees all recreational programs, classes, Aquatics, Teen Center, Sports, Gymnasium and special events. The Parks and Recreation Department oversees the annual Cheese & Wine Festival. The facility and park reservations are handled through the Parks and Recreation Department.

There are currently 16 city parks that the City's Parks and Recreation Department maintains, including the recently constructed Plaza Del Rio Park. The Parks and Recreation Department consists

[1] Personal Communication with Donald Hankins, Stanislaus County Fire Protection District Fire Captain. December 20, 2021.

of four full time workers, a part-time weekend park aide, and two volunteer park hosts.

The City's Building Maintenance staff consists of one full time worker that maintains the City Hall buildings, Sheriff's Department, Public Works buildings, Community Center, and Scout Hall. The City employs one part-time maintenance worker to work on weekends for facility rentals and mid-week for facility set ups and take downs for various groups.

The Parks and Recreation Department also oversees the Youth and Teen Committee, which is a group that assists the staff in developing programs for youth and teens in the community. Facility use and park and field reservations are handled under the Parks and Recreation Department. This includes scheduling, collecting fees, securing agreements, assignments of site monitors, and custodial services. The Department works closely with local organizations and clubs on facility use and with the local sports organizations for field reservations.

The Department oversees park development and serves as a liaison between the Friends of Jacob Myers Park and the City. Grant writing and park master plan development and implementation are responsibilities of the Parks and Recreation Department. The Recreation Department represents the City in the Stanislaus Elder Abuse Alliance, the Rio Altura Healthy Start Collaborative, and District V of the California Parks and Recreation Society.

On a regional scale, the city is located in the Central Valley District of the California State Parks, which contains several regional recreational areas and facilities in Stanislaus County, primarily for water-based recreation. Regional State parks near the city include the 250-acre Caswell Memorial State Park and the Turlock Lake State Recreation Area. The Riverbank Sports Complex, a city facility, is located approximately one mile southeast of the Plan Area, which includes six acres of developed illuminated soccer and football field facilities with concession and restrooms available and five acres of undeveloped area. Also in the vicinity is the McHenry Recreation Area, which includes campground and group shelter facilities located approximately 1.5 west of the Plan Area. This facility provides river access to the Stanislaus River and includes parking areas and a boat ramp.

SCHOOL SERVICES

The Project Area is served by three school districts: Sylvan Union School District, Stanislaus Union School District, and Modesto City Schools. The Sylvan Union School District and Stanislaus Union School District have a boundary that transects the Project Area, with Sylvan Union School District being the far west portion and Stanislaus Union School District being the far eastern portion. It is noted that within the Stanislaus Union School District portion of the Project Area, there are only 55+ active adult residential homes, which are not anticipated to generate a student population. Within the Sylvan Union School District there is also 55+ active adult, however, there is also traditional homes that would generate a student population. Both School Districts provide kindergarten through eighth grade instruction. The Modesto City Schools District provides High School instruction.

Stanislaus Union School District

The western half of the Specific Plan Area is located within the service boundaries of the Stanislaus Union School District. The Stanislaus Union School District provides school services for over 3,000

students through the grades of K through 8 in Riverbank and for adjacent unincorporated areas. The Stanislaus Union School District operates five elementary schools and one middle school. See Table 3.12-3 for the Stanislaus Union School District school inventory.

TABLE 3.12-3 STANISLAUS UNION SCHOOL DISTRICT SCHOOL INVENTORY

SCHOOL	*GRADES SERVED*	*ADDRESS*	*ENROLLMENT 2020-2021 SCHOOL YEAR*
ELEMENTARY SCHOOLS			
Agnes M. Baptist Elementary	K-5	1825 Cheyenne Way, Modesto	612
George Eisenhut Elementary	K-5	1809 Sheldon Dr, Modesto	550
Josephine Chrysler Elementary	K-5	2818 Conant Ave, Modesto	622
Mary Lou Dieterich Elementary	K-5	2412 Warm Springs Dr, Modesto	570
Stanislaus Elementary	K-5	1931 Kiernan Ave, Modesto	348
MIDDLE SCHOOLS			
Prescott Junior High	6-8	2243 W Rumble Rd, Modesto	727

SOURCE: STANISLAUS UNION SCHOOL DISTRICT SCHOOL DISTRICT 2020-2021

As shown in Table 3.12-3, the Stanislaus Union School District schools had a total enrollment of approximately 3,429 students, of which 2,702 were enrolled in elementary school (grades K through 5) and 727 were enrolled in middle school (grades 6 through 8).

Sylvan Union School District

The eastern half of the Specific Plan Area is located within the service boundaries of the Sylvan Union School District. The Sylvan Union School District provides school services for over 8,000 students through the grades of K through 8 in Riverbank and for adjacent unincorporated areas. The Sylvan Union School District operates ten elementary schools and three middle schools. See Table 3.12-4 for the Sylvan Union School District school inventory.

TABLE 3.12-4: SYLVAN UNION SCHOOL DISTRICT SCHOOL INVENTORY

SCHOOL	*GRADES SERVED*	*ADDRESS*	*ENROLLMENT 2020-2021 SCHOOL YEAR*
ELEMENTARY SCHOOLS			
C.F. Brown Elementary	K-5	2024 Vera Cruz Drive, Modesto	403
Crossroads Elementary	K-5	5800 Saxon Way, Riverbank	772
Freedom Elementary	K-5	2101 Fine Avenue, Modesto	866
Mary Ann Elementary	K-5	3101 Fine Avenue, Modesto	552
Orchard Elementary	K-5	1800 Wisdom Way, Modesto	580
Sherwood Elementary	K-5	819 E. Rumble Road, Modesto	471
Standiford Elementary	K-5	605 Tokay Avenue, Modesto	402
Stockard Coffee Elementary	K-5	3900 Northview Drive, Modesto	484
Sylvan Elementary	K-5	2908 Coffee Road, Modesto	377
Woodrow Elementary	K-5	800 Woodrow Avenue, Modesto	439
MIDDLE SCHOOLS			
Daniel J. Savage Middle	6-8	1900 Maid Marianne Lane, Modesto	866
Elizabeth Ustach Middle	6-8	2701 Kodiak Drive, Modesto	978
Somerset Middle	6-8	1037 Floyd Avenue, Modesto	934

SOURCE: SYLVAN UNION SCHOOL DISTRICT SCHOOL DISTRICT. DATAQUEST.COM 2020-2021

As shown in Table 3.12-4, the Sylvan Union School District schools had a total enrollment of approximately 8,124 students, of which 5,346 were enrolled in elementary school (grades K through 5) and 2,778 were enrolled in middle school (grades 6 through 8).

Modesto City Schools

As noted above, high school students within the Specific Plan Area would be served by the Modesto City Schools district. The Modesto City Schools district provides school services for over 15,000 students through the grades of 9 through 12 within its 250 square mile boundaries, including portions of Riverbank. Modesto City Schools operate seven comprehensive and one alternative high school (grades 9-12). See Table 3.12-5 for the Modesto City Schools school inventory.

TABLE 3.12-5: MODESTO CITY SCHOOLS DISTRICT SCHOOL INVENTORY

SCHOOL	*GRADES SERVED*	*ADDRESS*	*ENROLLMENT 2020-2021 SCHOOL YEAR*
HIGH SCHOOL			
Fred C. Beyer High	9-12	1717 Sylvan Avenue, Modesto	1,620
Grace M. Davis High	9-12	1200 W. Rumble Road, Modesto	2,032
Thomas Downey High	9-12	1000 Coffee Road, Modesto	2,141
James C. Enochs High	9-12	3201 Sylvan Avenue, Modesto	2,424
Joseph A. Gregori High	9-12	3701 Pirrone Road, Modesto	2,339
Modesto High	9-12	18 H Street, Modesto	2,565
Johansen High	9-12	641 Norseman Drive, Modesto	1,823
Elliott Alternative Education Center	9-12	1440 Sunrise Avenue, Modesto	309

SOURCE: MODESTO CITY SCHOOLS SCHOOL DISTRICT. DATAQUEST.COM 2020-2021

As shown in Table 3.12-5, the Modesto City Schools District had a total enrollment of approximately 15,253 students in high school (grades 9 through 12).

OTHER AGENCY SERVICES

Salida Fire Protection District

The Salida Fire Protection District operates one 24-hour staffed engine company, supported by volunteer/reserves, to provide fire protection and first response to emergencies to the communities of Salida and Del Rio as well as the Wood Colony. The Salida Fire Protection district currently maintains three stations serving a population of approximately 20,000 within 42 square miles. The Salida Fire Protection District Station 13 is located approximately 1.0 mile west of the closest Specific Plan Area boundary and approximately 2.78 miles southwest of the farthest Specific Plan Area boundary.

Library Services

The Riverbank Public Library, a branch library of the Stanislaus County Library system, is located at 3442 Santa Fe Street. The library offers a circulating collection of books, magazines, CDs, and DVDs in both English and Spanish.

3.12.2 REGULATORY SETTING

STATE

Police Protection

There are no federal or state regulations related to police protection services applicable to the proposed Project.

Fire Protection and Emergency Response

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

EMERGENCY RESPONSE/EVACUATION PLANS

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

FIRE PROTECTION

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial processes, and many other general and specialized fire safety requirements for new existing buildings and premises.

UNIFORM FIRE CODE

The Uniform Fire Code with the State of California Amendments contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include

fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Fire Code contains specialized technical regulations related to fire and life safety.

CALIFORNIA HEALTH AND SAFETY CODE

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

NFPA 1710

The NFPA 1710 Standards are applicable to urban areas and where staffing is comprised of career Firefighters. According to these guidelines, a career fire department needs to respond within six minutes, 90 percent of the time with a response time measured from the 911 call to the time of arrival of the first responder.

The standards are divided as follows:

- Dispatch time of one (1) minute or less for at least 90 percent of the alarms
- Turnout time of one (1) minute or less for EMS calls (80 seconds for fire and special operations response)
- Fire response travel time of four (4) minutes or less for the arrival of the first arriving engine company at a fire incident and eight (8) minutes or less travel time for the deployment of an initial full alarm assignment at a fire incident
- Eight (8) minutes or less travel time for the arrival of an advanced life support (ALS) (4 minutes or less if provided by the fire department

Parks/Recreation

QUIMBY ACT

The Quimby Act (California Government Code Section 66477) states that "the legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative or parcel map." Requirements of the Quimby Act apply only to the acquisition of new parkland and do not apply to the physical development of new park facilities or associated operations and maintenance costs. The Quimby Act seeks to preserve open space needed to develop parkland and recreational facilities; however, the actual development of parks and other recreational facilities is subject to discretionary approval and is evaluated on a case-by-case basis with new residential development. The City requires parkland dedication and improvement or collects impact fees to build park facilities in the future. The park land dedication

requirements (Quimby Act compliance) are determined at the time of Final Map and parks impact fees are collected at the time of building permit issuance.

Schools

CALIFORNIA CODE OF REGULATIONS

The California Code of Regulations, Title 5 Education Code, governs all aspects of education within the State.

CALIFORNIA DEPARTMENT OF EDUCATION

The California Department of Education (CDE) School Facilities Planning Division (SFPD) prepared a School Site Selection and Approval Guide that provides criteria for locating appropriate school sites in the State of California. School site and size recommendations were changed by the CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

Specific recommendations for school size are provided in the School Site Analysis and Development Guide. This document suggests a ratio of 1:2 between buildings and land. CDE is aware that in a number of cases, primarily in urban settings, smaller sites cannot accommodate this ratio. In such cases, the SFPD may approve an amount of acreage less than the recommended gross site size and building-to-ground ratio.

Certain health and safety requirements for school site selection are governed by state regulations and the policies of the SFPD relating to:

- Proximity to airports, high-voltage power transmission lines, railroads, and major roadways;
- Presence of toxic and hazardous substances;
- Hazardous facilities and hazardous air emissions within one-quarter mile;
- Proximity to high-pressure natural gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- Noise;
- Results of geological studies or soil analyses;
- Traffic and school bus safety issues.

LEROY F. GREENE SCHOOL FACILITIES ACT OF 1998 (SB 50)

The "Leroy F. Greene School Facilities Act of 1998," also known as Senate Bill No. 50 or SB 50 (Chapter 407, Statutes of 1998), governs a school district's authority to levy school impact fees. This comprehensive legislation, together with the $9.2 billion education bond act approved by the voters in November 1998 known as "Proposition 1A", reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for state construction and modernization funds. It imposed limitations on the power of cities and

counties to require mitigation of school facilities impacts as a condition of approving new development and provided the authority for school districts to levy fees at three different levels:

- **Level I** fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction and are increased biannually.
- **Level II** fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15–30 percent of the district's bonding capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district's teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.
- **Level III** fees are outlined in Government Code Section 65995.7. If State funding becomes unavailable, this code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of state funding.

The Sylvan Union School District completed a School Facilities Fee Plan – Level I Developer Fee Justification Study in May 2018. According to the Study, the residential fee of $3.79 per square foot is applied 60 percent ($2.27) at the elementary level and 40 percent ($1.52) at the high school level. The fee is collected on covered and enclosed residential space, except garages and carports. The amount of this fee is adjusted every other year according to the state-wide cost index for Class B construction as adopted by the State Allocation Board.

LOCAL

City of Riverbank General Plan

GOALS: PUBLIC SERVICES AND FACILITIES ELEMENT

- PUBLIC-7. Police Enforcement Services, Staffing and Deployment Adequate to Serve the Needs of Existing and Planned Development.
- PUBLIC-8. Fire Protection Services, Staffing, and Deployment Adequate to Serve the Needs of Existing and Planned Development.
- PUBLIC-9. School Facilities that Serve Existing and Future Needs and Complement Our Neighborhoods.

- PUBLIC-11. Develop a Diversified Park System in a Variety of Scales and Environments to Meet Existing and Future Needs.

POLICIES: PUBLIC SERVICES AND FACILITIES ELEMENT

- PUBLIC-7.1. The City will ensure that adequate fire flow pressure is available in relation to structure size, design, requirements for construction, and/or built-in fire protection systems. Maintenance of adequate fire flows includes factors such as adequate storage, system gridding, hydrant spacing, and spacing and sizing of water mains, as specified in the City's Water Master Plan.
- PUBLIC-7.2. For new development, the City will require a minimum fire flow pressure of 1,500 GPM (sustainable for at least two hours) for residential use. For new development, the City will require a minimum fire flow pressure of approximately 3,600 GPM (sustainable for longer periods) for larger residences and for other building types, depending on the particular use and structure characteristics, and in coordination with the fire service provider.
- PUBLIC-7.3. The City will require that fire stations be located to ensure the appropriate level of service (including adequate response time per Policy PUBLIC-7.5), community compatibility, and efficiency, including the location of such facilities relative to existing and planned public parks, libraries, and other activity centers.
- PUBLIC-7.4. The City will coordinate with fire protection providers, including through reciprocity arrangements, to ensure equipment, staffing, and facilities for emergency medical services, urban search and rescue, hazardous materials emergency response, and other relevant needs, as appropriate. The City will ensure consistency with National Fire Protection Association and Stanislaus Consolidated Fire Protection District response requirements.
- PUBLIC-7.5. The City will coordinate with fire protection providers to an emergency response system capable of achieving the following standards in 95% of all cases: first fire emergency response unit within six minutes of dispatch; full alarm assignment within 10 minutes of dispatch; second alarm assignment within 15 minutes of dispatch; and an Insurance Service Office (ISO) rating of Class 2 for areas within the City.
- PUBLIC-7.6. The City will work with property owners in existing developed portions of the City to achieve a minimum fire flow pressure of 1,500 GPM (sustainable for at least two hours) for residential use and approximately 3,600 GPM (sustainable for longer periods) for larger residences and for other building types, depending on the particular use and structure characteristics, and in coordination with the fire service provider.
- PUBLIC-8.1. New developments shall fund and/or construct adequate law enforcement facilities to serve new growth areas, as required, in coordination with law enforcement service providers.
- PUBLIC-8.2: The City's goal is to provide 1.25 sworn officers per 1,000 residents. The City will plan and budget and coordinate with service providers with this service standard as a goal.
- PUBLIC-8.3: The City will coordinate with law enforcement service providers to ensure a four-minute average response time for emergency calls within the City.

- PUBLIC-8.4: The City will require design of structures, streetscapes, pathways, project sites, and other elements of the urban environment to allow for surveillance of publicly accessible areas.
- PUBLIC-8.5: The City will coordinate with applicable law enforcement service providers to ensure adequate funding, staffing, training, and direction to provide City residents with responsive and effective law enforcement services of all types, including investigative, patrol, and other non-emergency services.
- PUBLIC-9.1: New development projects shall provide impact fees, land dedication, school construction, special taxes, and/or other means to the satisfaction of affected school districts to ensure levels of service, in accordance with State law.
- PUBLIC-9.2: The City will circulate development application materials to the appropriate school district representatives in association with CEQA and project review and incorporate school district comments into City actions on such development projects.
- PUBLIC-9.3: The City will work with local school districts in long-range land use planning to allow planning for school facilities for servicing new growth.
- PUBLIC-9.4: The City will work with local school districts to take advantage of joint-use opportunities that could benefit the City, especially for park and recreation facilities that could be used by schoolchildren during the school day and the community in the evening, on weekends, and during school breaks.
- PUBLIC-9.5: The City will ensure that areas around school sites are designed to allow easy pedestrian and bicycle access from surrounding neighborhoods. New development project applicants shall demonstrate to the satisfaction of the City that there are safe routes to and from school sites from surrounding planned neighborhoods prior to approval.
- PUBLIC-11.1: New developments shall set aside land and dedicate improved parkland according to City standards at a minimum rate of five acres per 1,000 residents. Landscaped areas along streets or other rights-of-way without trails, or other park and recreational facilities do not count toward this standard. Other open spaces without park facilities do not count toward the five-acre parkland minimum, although this land may be required to meet open space or landscaping requirements of the City's applicable development codes. For small projects, in cases of financial hardship, or where the required facility would serve areas outside the proposed project or plan, the City may allow participation in an in-lieu fee program to provide improved parkland. The distribution of parkland shall be as follows:
    - Community Parks: Minimum of 1.5 acres per 1,000 residents. Minimum of 15 acres in size. Specific design and facilities are as directed by the City based on population density, demographic structure, community preferences, use levels, and other criteria.
    - Neighborhood Parks: Minimum of 1.5 acres per thousand residents. Minimum of 5 acres in size. Maximum of ½ mile from all proposed residences. Specific design and facilities are as directed by the City based on population density, demographic structure, community preferences, use levels, and other criteria.
    - Playgrounds, plazas, tot lots, linear parks, recreation trails, and other similar parklands may count for up to 1.5 acre per thousand of the 5-acre standard. Maximum of ¼ mile from all proposed residences. There is no minimum size. Specific

design and facilities are as directed by the City based on population density, demographic structure, community preferences, use levels, and other criteria.

- PUBLIC-11.2: The City of Riverbank will maintain park in-lieu fees at a level adequate to provide parks in a ratio of acres to population, as established by this element.
- PUBLIC-11.3: The City will maintain and improve existing parks and develop new parks to serve existing developed portions of the City, as feasible.
- PUBLIC-11.4: The City will encourage the use of greenways and natural open space areas for certain compatible recreational opportunities, such as pedestrian pathways, while preserving important ecological habitats.

GOAL: LAND USE ELEMENT

- LAND-5. Full Range of Public Services and Facilities for All Area of the Community.

POLICIES: LAND USE ELEMENT

- LAND-5.1: The City will maintain public services and facilities in the existing developed City and make improvements as necessary to maintain a consistent Citywide level of service.
- LAND-5.3: Approved projects, plans, and subdivisions in new growth areas will set aside, in areas convenient and safe for all travel modes, adequate land for parks and schools; or, in-lieu of parkland and school property dedication, approved projects, plans, and subdivisions in new growth areas will participate in joint funding and siting of such facilities.
- LAND-5.5: Approved projects, plans, and subdivisions in new growth areas will set aside adequate land for, and shall otherwise accommodate public infrastructure and service needs consistent with General Plan policy.

GOAL: SAFETY ELEMENT

- SAFE-2. Provide Adequate Access for Emergency Response.

POLICIES: SAFETY ELEMENT

- SAFE-1.1. The City will ensure that approved development projects and public investments are consistent with the information provided in the Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan.
- SAFE-1.2. The City will continue to enforce State of California Building Standards Commission uniform codes, such as the California Building Code and California Fire Code with adopted Fire District amendments.
- SAFE-1.3. The City will encourage the retrofitting of older buildings to current safety standards, and require compliance to recommendations of the fire and law enforcement service providers and the State Building Standards Commission uniform codes in coordination with major remodeling or additions.
- SAFE-1.4. The City will require setbacks, ignition resistant building materials, or other measures to reduce exposure to potential wildfires in areas designated for natural open space preservation, in coordination with California Department of Forestry and Fire

Protection recommendations and Maintenance of Defensible Space Measures, as appropriate.

- SAFE-1.5. Approved plans, projects, and subdivision requests will ensure adequate fire flow per City and Fire District standards. The installation of automatic fire sprinklers may, at the discretion of the City and the Fire Chief, allow for a reduction in the required fire flow, while still complying with the California Fire Code requirements.
- SAFE-1.8. The City will require that hazardous materials are used, stored, transported, and disposed in a safe manner and in compliance with local, State, and federal safety standards.
- SAFE-1.9. Developments located on farmland or former farmland shall prepare reports that analyze residual agricultural chemicals that may be present on-site. Developments on such sites shall include measures to remove any risk due to hazardous materials for on-site proposed land uses, as well as existing and proposed land uses and users in the vicinity.
- SAFE-1.10. The City will review development requests and require that any airborne, waterborne, windborne, and other hazardous materials issues are fully disclosed, analyzed, and mitigated to ensure against any risk relative to any nearby planned or existing land uses and their users.
- SAFE-2.1. The City will require development and maintenance of a road system that provides adequate access for emergency equipment.
- SAFE-2.4. The City will coordinate with the County Office of Emergency Services to identify evacuation routes and operational plans to be used in case of dam failure, flood disaster, and wildfire for any new growth areas in addition to any updates required to serve the existing developed City.

City of Riverbank Municipal Code

Section 152.037, Park and Recreation Dedication and Fees, of the City Municipal Code outlines the parkland requirements for new development within the City. Section 152.037(B) of the Code states:

(B) Requirements. As a condition of approval of a parcel map or tentative map, the subdivider shall dedicate and develop land, pay a fee in lieu thereof, or both, at the option of the city for park or recreational purposes at the time, and according to the standards and formula contained in this section.

(1) The subdivider shall without credit:

(a) Provide full public improvements, utility expansions and connections, including but not limited to sidewalks, curbs, gutters, street paving, traffic control devices, and street trees to land which is dedicated pursuant to this section;

(b) Provide fencing along the property line of that portion of the subdivision contiguous to the dedicated land;

(c) Provide improved drainage through the site; and

(d) Provide other improvements which the city determines to be essential to the acceptance of the land for recreational purposes.

(2) Access. All land offered for dedication to local park or recreational purposes shall have access to at least one existing or proposed public street that will provide access to the park or recreational facility by the time that the facility is completed.

Additionally, Section 152.037 (C) and (D) outlines the standards and formula for dedication of land. According to this section of the Code, "*Where a park or recreational facility has been designated in the recreation element of the general plan of the city, and is to be located in whole or in part within the proposed subdivision to serve the immediate and future needs of the residents of the subdivision, the subdivider shall dedicate land for a local park sufficient in size and topography to serve the residents of the subdivision. The amount of land to be provided shall be determined pursuant to the standards and formula listed below. If the amount of land needed for the park according to the recreational element exceeds the amount of land to be dedicated according to the formula, the city shall pay compensation in an amount as determined pursuant to Cal. Code Civ. Proc. §§ 1260.010 et seq. and §§ 1263.010 et seq.*"

(C) General standards. It is hereby found and determined that the public interest, convenience, health, welfare and safety require that five acres of property for each 1,000 persons residing within this city be devoted to local park and recreational purposes. Two and one-half acres shall be allocated for community parks and two and one-half acres shall be allocated for neighborhood parks.

(D) Standards and formula for dedication of land.

(1) Where a park or recreational facility has been designated in the recreation element of the general plan of the city, and is to be located in whole or in part within the proposed subdivision to serve the immediate and future needs of the residents of the subdivision, the subdivider shall dedicate land for a local park sufficient in size and topography to serve the residents of the subdivision. The amount of land to be provided shall be determined pursuant to the standards and formula listed below. If the amount of land needed for the park according to the recreational element exceeds the amount of land to be dedicated according to the formula, the city shall pay compensation in an amount as determined pursuant to Cal. Code Civ. Proc. §§ 1260.010 et seq. and §§ 1263.010 et seq. The formula for determining acreage to be dedicated shall be as follows:

Dwelling Type	***Zoning District***	***Standard Density***	***Acres/DU***
Single-Family dwelling unit	R-1	3.5 persons	1 acre/58 DUs
Duplex/Multiple Mobile home dwelling unit	R-2/R-3	2.5 persons	1 acre/80 DUs

(2) Dedication of the land shall be made in accordance with the procedures contained in § 152.036 hereof.

(E) Formula for fees in lieu of land dedication.

(1) General formula. If there is no park or recreational facility designated in the city's recreation element to be located in whole or in part within the proposed subdivision to serve the immediate and future needs of the residents of the subdivision, the subdivider shall, in lieu of dedicating land, pay a fee equal to the value of the land prescribed for dedication in division (D) thereof and in an amount determined, in accordance with the provisions of this division (F).

(2) Fifty parcels or less. If the proposed subdivision contains 50 parcels or less, the subdivider shall pay a fee equal to the land value of the portion of the local park required to serve the needs of the residents of the proposed subdivision as prescribed in division (D) hereof and in an amount determined in accordance with the provisions of division (F) hereof.

(3) Use of money. The money collected hereunder shall be used only for the purpose of providing park or recreational facilities reasonably related to serving the subdivision by way of the purchase of necessary land and/or the improving of such land for park and recreational purposes.

(Ord. 89-09, passed 11-27-89)

(4) Sale of dedicated land. If, during the ensuing time between dedication of land for park purposes and commencement of first-stage development, circumstances arise which indicate that another site would be more suitable for local park or recreational purposes serving the subdivision and the neighborhood (such as receipt of a gift of additional park land or a change in school location), the land may be sold upon the approval of the City Council upon review of a recommendation from the Community Development Department and City Manager, with the resultant funds being used for purchase of a more suitable site.

(F) Amount of fee in lieu of land dedication.

(1) Where a fee is required to be paid in lieu of land dedication, the amount of such fee shall be based upon the fair-market value of the amount of land which would otherwise be required to be dedicated pursuant to division (D) hereof. The fair market value of land shall be determined by the city with a written appraisal prepared and signed by a qualified real estate appraiser acceptable to the city. The appraisal shall be made immediately prior to the filing of the final parcel map or tentative subdivision map. If more than one year elapses between the preparation of the appraisal and the filing of the final parcel map or tentative subdivision map, the city shall cause a new appraisal to be prepared. All costs associated with obtaining the appraisal and the reappraisal, if necessary, shall be borne by the subdivider.

3.12.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on public services if it would result in:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    - Police Protection
    - Fire Protection
    - Parks and Recreation
    - Schools
    - Other public facilities
- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

It is important to note that, in addressing public service demand issues under CEQA, including parks and recreational facilities, the appropriate focus is on the environmental effects of whatever steps might be necessary to achieve or maintain adequate service. For example, if proposed new development would create an increased demand for law enforcement or fire protection services, an EIR should inquire as to whether new or expanded physical facilities may be required in order to provide such service. The "impacts" addressed under CEQA are the physical effects of providing service, not any possible failure to provide adequate service under applicable standards. (See *City of Hayward v. Board of Trustees of the Cal. State University* (2015) 242 Cal.App.4th 833, 843 ["[t]he need for additional fire protection services is not an environmental impact that CEQA requires a project proponent to mitigate"]; *Goleta Union School Dist. v. Regents of Univ. of Cal*. (1995) 37 Cal.App.4th 1025, 1031–1034 [school overcrowding attributable to new development is not an environmental effect subject to CEQA, though the physical effects of new facility construction to serve new students would be]; and CEQA Guidelines, § 15131, subd. (a) ["[e]conomic or social effects of a project shall not be treated as significant effects on the environment"].)

This does not mean, however, that a city or county is powerless to require new development to take the steps needed to ensure adequate public services, such as law enforcement service. Such steps are simply beyond the scope of CEQA. They should instead be imposed under some other body of State statutory law (e.g., the Planning and Zoning Law [Gov. Code, § 65300 et seq.] or the Subdivision Map Act [Gov. Code, § 66410 et seq.]) or under a local government's broad police power under the California Constitution. (See Cal. Const., Art. XI, § 7; *Candid Enterprises, Inc. v. Grossmont Union High School Dist.* (1985) 39 Cal.3d 878, 885.)

It is also important to understand that special legal principles apply to impacts to school facilities. According to Government Code Section 65996, the development fees authorized by Senate Bill 50 (1998) (described earlier) are deemed to be "full and complete school facilities mitigation" for impact caused by new development. The legislation also recognized the need for the fee to be adjusted periodically to keep pace with inflation. The legislation indicated that in January 2000, and every two years thereafter, the State Allocation Board would increase the maximum fees according to the adjustment for inflation in the statewide index for school construction.

Section 65996 also prohibits public agencies from using CEQA or "any other provision of state or local law" to deny approval of "a legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property or any change in governmental organization or reorganization" on the basis of the project's impacts on school facilities.

IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: The proposed project will not result in or require the construction of police department facilities which may cause substantial adverse physical environmental impacts (Less than Significant)

The City's General Plan includes policies that would allow for the City's Police Services to continue providing adequate staffing levels. Below is a list of relevant policies:

- The City will require all "new developments shall fund and/or construct adequate law enforcement facilities to serve new growth areas, as required, in coordination with law enforcement service providers" (Policy PUBLIC 8.1)
- The City's goal is to provide 1.25 sworn officers per 1,000 residents. The City will plan and budget and coordinate with service providers with this service standard as a goal (Policy PUBLIC-8.2).
- The City will coordinate with law enforcement service providers to ensure a four-minute average response time for emergency calls within the City (Policy PUBLIC-8.3).
- The City will coordinate with applicable law enforcement service providers to ensure adequate funding, staffing, training, and direction to provide City residents with responsive and effective law enforcement services of all types, including investigative, patrol, and other non-emergency services (Policy PUBLIC-8.5).

Riverbank's police station is located at 6727 Third Street in downtown Riverbank. There are no plans for a new station.

Staffing includes one Lieutenant (Chief of Police), two Sergeants, and 15 Deputy Sheriffs/Detectives. In total, 18 sworn officers provide police services within the City of Riverbank. Additional police department staff includes one Supervising Legal Clerk, two Legal Clerks and one Community Service Officer.

The calculated ratio of police officers is currently 0.72 per 1,000 population based on the population estimate of 25,133 (2020). This is well below the City's goal of 1.25 sworn officers per 1,000. The City is currently understaffed by 13 sworn police officers, accordingly to this goal, however, the City has historically operated well below the 1.25 officers per 1,000 population goal. It is noted, however, that police service is evaluated and addressed annually on a citywide basis by the Riverbank City Council, City Manager and Police Chief. The City Council adopts an annual budget allocating resources to police services, which effectively establishes the service ratio for that particular year. The annual budget is based on an assessment of community needs and available resources as determined by the City Council, City Manager, and the Police Chief.

The proposed Project includes residential units that would result in direct population growth. The Department of Finance estimates an average of 3.33 people per household in Riverbank in 2022. For senior households 55 years and older, average household sizes are smaller. According to the US Bureau of Labor Statistic senior housing (age 55+) has an average household size of 1.89. The proposed Project includes a range of density and intensity, which would be anticipated to result in up to 2,432 units. Based on the anticipated number of residential units that will be built in the Project Area (2,432 units), the population would be anticipated to increase by an estimated 5,046 persons. It is noted that the Mixed Use areas include provisions that could allow additional residential units, which would be anticipated to result in a population that could be slightly higher than reflected in this estimate. Based on the City police staffing goal, the proposed Project would warrant 6.3 new sworn officers to be hired. It is noted, however, that the service ratio has averaged well below that figure. The contract between the Stanislaus County Sheriff and the City specifies a minimum of 0.85 officers per thousand residents. Under that ratio, the proposed Project would warrant 4.28 new sworn officers to be hired.

The Riverbank City Council, in adopting Resolutions 2016-115 and 116 on October 23, 2016, set policy that requires all new development to annex into Community Facilities District No. 2016-01 for police protection. "The increase of Police Services created by development will create an adverse impact to City financial capacity". This CFD is designed to provide additional funding beyond impact fees and property taxes for police services.

CONCLUSION

The proposed project would not result in, or have the potential to require the construction of police department facilities which may cause substantial adverse physical environmental impacts. Development of the Specific Plan Area would not directly trigger the need for a new facility; however, additional staffing and patrols would be required to serve the proposed Specific Plan Area. The City collects impact fees from new development based upon projected impacts from the development. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with anticipated future facilities demands, assessed on a fair share basis for new development. Payment of the applicable impact fees by the Project applicant as required by Mitigation Measure 3.12-1 and 3.12-2, and ongoing revenues that would come from, property taxes, sales taxes, and other revenues generated by the project, would fund these public service needs created by the proposed Project.

MITIGATION MEASURE(S)

Mitigation Measure 3.12-1: *Prior to final map approval, the Project applicant shall annex mapped property into Community Facilities District (CFD) No. 2016-01 for operational services with the Riverbank Police Department (Stanislaus County Sheriff), or create a new CFD for the proposed Plan Area.*

Mitigation Measure 3.12-2: *Prior to the issuance of a Certificate of Occupancy for each dwelling unit (and prior to issuance of building permits for non-residential uses), the applicant shall pay all applicable project impact fees per the impact fee schedule.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The revenue generated through the Mitigation Measures described above would ensure the provision of adequate public services to new residents, and would ensure that the financial burden for the additional demand for services is not imposed on existing residents. Because no physical construction is needed to provide such services, combined with payment of various impact fees, the environmental impacts related to providing such police services are ***less than significant***.

Impact 3.12-2: The proposed project will not require the construction of fire department facilities which may cause substantial adverse physical environmental impacts (Less than Significant)

The City's General Plan includes policies that would allow for SCFPD to continue providing adequate facilities and staffing levels. Below is a list of relevant policies:

- The City will require that fire stations be located to ensure the appropriate level of service (including adequate response time per Policy PUBLIC-7.5), community compatibility, and efficiency, including the location of such facilities relative to existing and planned public parks, libraries, and other activity centers (Policy PUBLIC-7.3).

- The City will coordinate with fire protection providers, including through reciprocity arrangements, to ensure equipment, staffing, and facilities for emergency medical services, urban search and rescue, hazardous materials emergency response, and other relevant needs, as appropriate. The City will ensure consistency with National Fire Protection Association and Stanislaus Consolidated Fire Protection District response requirements (Policy PUBLIC-7.4).

- The City will coordinate with fire protection providers to an emergency response system capable of achieving the following standards in 95% of all cases: first fire emergency response unit within six minutes of dispatch; full alarm assignment within 10 minutes of dispatch; second alarm assignment within 15 minutes of dispatch; and an ISO rating of Class 2 for areas within the City (Policy PUBLIC-7.5).

Stanislaus Consolidated Fire Protection District (SCFPD) provides fire protection and first response to emergencies for the City of Riverbank, as well as the unincorporated area within its Sphere of

Influence. The Public Services and Facilities Element of the General Plan indicates that the City will coordinate with the SCFPD to achieve an emergency response system capable of achieving the following standards in 95% of all cases: travel time of six minutes or less for the first fire emergency response, 10 minutes or less for the full alarm assignment, and 15 minutes or less for the second alarm assignment. (It is noted that "travel time" does not include call processing and turnout time.)

SCFPD has 6 fire stations throughout Stanislaus County covering a service area of 199 square miles with an annual operating budget of $12.1 million. Last year they handled over 6,000 calls with 56 full-time, 2 part-time, and 5 interns. The SCFPD Admin Office is located in Riverbank. SCFPD Station No. 26, located at 3318 Topeka Street, serves the City of Riverbank 24-hours a day with 3 personnel and a battalion chief on each shift. This station houses 2 type-1 engines, 1 grass rig, 1 light duty rescue, and a water rescue boat. This station is located approximately 1.9 miles from the closest Specific Plan Area boundary and approximately 4.4 miles from the farthest Specific Plan Area boundary.

The Salida Fire Protection District Station 13 is the closest fire station located approximately 1.1 mile west of the to the Project Area. This station is located approximately 2.1 miles away from the Coffee Road entrance into the Specific Plan Area, and approximately 2.5 miles away from the entrance off of McHenry Avenue. The Salida Fire Protection District operates one 24-hour staffed engine company, supported by volunteer/reserves, to provide fire protection and first response to emergencies to the communities of Salida and Del Rio as well as the Wood Colony. The Salida Fire Protection District Station 13 could serve the Specific Plan Area under mutual aid agreements.

CONCLUSION

The proposed project would not result in, or have the potential to require the construction of fire department facilities which may cause substantial adverse physical environmental impacts. Development of the Specific Plan Area did not directly trigger the need for a new facility. The SCFPD collects impact fees from new development based upon projected impacts from the development. The SCFPD also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with anticipated future facilities demands, assessed on a fair share basis for new development. Payment of the applicable impact fees by the Project applicant as required by Mitigation Measure 3.12-1 and 3.12-2, and ongoing revenues that would come from, property taxes, sales taxes, and other revenues generated by the project. These revenue sources would ensure the provision of adequate police services to project residents. Because no physical construction is needed to provide such services, the environmental impacts related to providing such police services are ***less than significant***.

Impact 3.12-3: The proposed Project will not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated, but the proposed Project will require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts. (Significant and Unavoidable)

PARK STANDARDS/REQUIREMENTS

The General Plan establishes a park dedication standard of five acres of parkland per 1,000 residents, which is consistent with the State Quimby Act. The proposed Project includes residential units that would result in direct population growth. The Department of Finance estimates an average of 3.33 people per household in Riverbank in 2023. For senior households 55 years and older, average household sizes are smaller. According to the US Bureau of Labor Statistics, senior housing (age 55+) has an average household size of 1.89. The proposed Project includes a range of density and intensity, which would be anticipated to result in up to 2,432 units. Based on the anticipated number of residential units that will be built in the Project Area (2,432 units), the population would be anticipated to increase by an estimated 5,093 persons. It is noted that the Mixed Use areas include provisions that could allow additional residential units, which would be anticipated to result in a population slightly higher than reflected in the estimated 5,093. Based on the Park Standard, the proposed Project would require 25.47 acres of parkland.

PARKS PROVIDED

The Specific Plan provides for the development park, greenway, and open space areas with a variety of passive and active recreational opportunities. The park and open space will fall into two different land use designations: Parks (P), and Buffer/Greenway/Open Space (B/G/OS). Each of these uses are described below:

Parks (P): This category includes active and passive parkland of all types. Neighborhoods shall have close and convenient access to community parks, neighborhood parks, and smaller "pocket parks." This category can include public plazas, town squares, tot lots, parkways, linear parks, and other park space configurations. The Park land use provides visual interest to the residents and visitors; provides connectivity amongst residences and land uses; creates gathering places for active and passive recreation; promotes walk-able, pedestrian-friendly neighborhoods; and preserves areas with existing natural resources (i.e., Stanislaus River) and natural topographic challenges. The Specific Plan includes an extensive network of Parks to serve the community. It is also noted that several stormwater basins have been incorporated into the Specific Plan for storm drainage function, but are also intended to provide a dual use park opportunity. There is 43.34 acres of Park designation in the Project Area, all of which falls in the Specific Plan Area. Additionally, there are 41.0 acres of Dual Use Park/Ponding Basins provided in the Specific Plan Area. This Park acreage exceeds the park requirements for the proposed Project.

Buffer/Greenway/Open Space (B/G/OS): This designation provides the opportunity to preserve important open spaces containing natural resources, such as sensitive biological habitat. This

category also includes areas where buffering is necessary between different land uses. Bicycle and pedestrian pathways can be accommodated by this Land Use Designation. Within the B/G/OS category several subcategories are included including B/G/OS–Bluff, B/G/OS–Canal, and B/G/OS–River Park. There is 204.98 acres of this land use in the Project Area. Of this acreage, 69.77 acres includes the River Park which is designed to be a linear park looping around the active adult community providing both open space and active recreational opportunities.

CONCLUSION

The portion of the Project Area that lies outside the Specific Plan area does not generate a need for additional Park, as this area is not planned for development. The Specific Plan is estimated to generate 5,046 new residents, which is estimated to warrant 25.47 acres of parkland. The Specific Plan includes 43.34 acres of Park that would be developed as Neighborhood Park and Community Park. This exceeds the required park dedication for the proposed Project. It is noted that the proposed Project includes additional land that would be used for park, recreational, and open space purposes.

While the proposed project would increase the demand for parks and other recreational facilities based on the population growth, the amount of parkland and open space provided within the Specific Plan Area sufficiently meets the City's General Plan parkland requirements. Furthermore, the Crossroads West Specific Plan, located within the City of Riverbank and in proximity to the Project site, will provide opportunity to expand the Regional Sports Park by an additional 11 acres upon development to a total of 22 acres. No additional need for park space is required, and it is not anticipated that any substantial physical deterioration of existing facilities would occur or be accelerated.

Project implementation would require the construction of park facilities which may cause substantial adverse physical environmental impact. Potential environmental impacts associated with the future construction of park and other recreational facilities within the Specific Plan Area are addressed throughout this EIR. This EIR analyzes the physical environmental effects that may occur as a result of development and introduction of new urban land uses within the Specific Plan Area. Each future park, if constructed, would fall within the range of environmental impacts disclosed in this EIR, and would be subject to relevant mitigation measures included in this EIR.

It is noted, however, that development of park land within the Specific Plan Area would contribute to significant and unavoidable impacts as discussed in this EIR. Therefore, consistent with the analysis included in this Draft EIR, impacts related to constructing new park facilities to serve the proposed project are considered ***significant and unavoidable***.

Impact 3.12-4: Project implementation will not result in the need for the construction of new schools which have the potential to cause substantial adverse physical environmental impacts (Less than Significant)

The Project Area is served by three school districts: Sylvan Union School District, Stanislaus Union School District, and Modesto City Schools. The Sylvan Union School District and Stanislaus Union

School District have a boundary that transects the Project Area, with Sylvan being the far west portion and Stanislaus Union being the far eastern portion. Both School Districts provide kindergarten through eighth grade instruction. The Modesto City Schools District provides High School instruction.

Because the proposed Specific Plan is largely an active adult community, it is not anticipated to generate many school-aged children requiring educational services from these school districts. The non-active adult component of the Specific Plan is anticipated to result in 348 low density residential units in five neighborhoods as shown in Table 3.12-6.

TABLE 3.12-6: RIVER WALK SPECIFIC PLAN NON-ACTIVE ADULT RESIDENTIAL VILLAGE SUMMARY

VILLAGE	*LAND USE*	*AGE RESTRICTED*	*LOT COUNT*
A	Low Density Residential	No	101
B	Low Density Residential	No	42
P	Low Density Residential	No	67
Q	Low Density Residential	No	108
R	Low Density Residential	No	30
Total	--	--	348

All 348 non-active adult residential units are located in the Sylvan Union School District and Modesto City Schools District. All residential units located in the Stanislaus Union School District are active adult and will not generate students requiring educational service. Utilizing the student generation rates provided by the Sylvan Union School District, the proposed Project would be expected to generate up to 97 new elementary school students and 52 new middle school students, for a total of 149 students in the single-family units.

It is noted that the Mixed Use areas also allow for up to 450 additional Higher Density Residential uses. Of those units, 100 are active adult, and 350 are non-active adult. Utilizing the student generation rates provided by the Sylvan Union School District for multi-family units, the proposed Project would be expected to generate up to 29 new elementary school students and 38 new middle school students, for a total of 67 students.

The total K-8 students that could be generated by the Specific Plan is anticipated to be 216 students, although it is not anticipated that the Mixed Use area will build out the maximum number of units allowed so this is a maximum-case scenario. Table 3.12-7 shows the anticipated number of elementary students that would be generated by the project.

TABLE 3.12-7: SYLVAN UNION SCHOOL DISTRICT STUDENT GENERATION (K-8 GRADES)

PROPOSED LAND USE	*GENERATION RATE*	*PROJECTED NUMBER OF STUDENTS*
LOWER DENSITY RESIDENTIAL AREA (348 SINGLE FAMILY UNITS)		
ELEMENTARY SCHOOL		
348 Single Family Dwellings	0.280 students/unit	97
MIDDLE SCHOOL		
348 Single Family Dwellings	0.150 students/unit	52
TOTAL		***149***
MIXED USE AREA (350 MULTIFAMILY UNITS)		
ELEMENTARY SCHOOL		
350 Multi Family Dwellings	0.083 students/unit	29
MIDDLE SCHOOL		
350 Multi Family Dwellings	0.111 students/unit	38
TOTAL		***67***

SOURCE: SYLVAN UNION SCHOOL DISTRICT, LONG-RANGE FACILITIES MASTER PLAN 2017

Utilizing the student generation rates provided by the Modesto City Schools District, the proposed Project would be expected to generate up to 61 new high school students in the single-family units, and up to 62 new high school students in the multi-family units in the Mixed Use areas. The total high school students that could be generated by the Specific Plan is anticipated to be 123 students, although it is not anticipated that the Mixed Use area will build out the maximum number of units allowed so this is a maximum-case scenario. Table 3.12-8 shows the anticipated number of high school students that would be generated by the project.

TABLE 3.12-8: MODESTO CITY SCHOOLS STUDENT GENERATION (9-12 GRADES)

	GRADES 9-12 GENERATION RATE	*PROJECTED NUMBER OF STUDENTS*
LOWER DENSITY RESIDENTIAL AREA (348 SINGLE FAMILY UNITS)		
348 Single Family Dwellings	0.176	61
MIXED USE AREA (350 MULTIFAMILY UNITS)		
350 Multi-Family Dwellings	0.176	62
TOTAL		***123***

SOURCE: MODESTO CITY SCHOOL DISTRICT, SCHOOL FACILITIES FEE PLAN 2020

Both the Sylvan Union School District and the Modesto City Schools collect impact fees from new developments under the provisions of SB 50. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated with school services. The adequacy of fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would fund improvements associated with school services. According to Government Code Section 65996, the development fees authorized by SB 50 (1998) are deemed to be "full and complete school facilities mitigation" for any demands or impacts on school facilities caused by new development.

Any new facilities from either School District are planned and constructed by each respective School District in accordance with the Education Code. Any such construction activity would require CEQA compliance, and the School District would serve as lead agency. The proposed project does not propose any new school facilities within the Project Area, and there are no indications that either School District would need to construct new facilities as a result of the relatively low student generation resulting from the proposed Project. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.12-5: The proposed Project will not have significant effects on other public facilities. (Less than Significant)

The proposed Project would increase demand for other public facilities within the City of Riverbank, such as libraries, and community/recreation buildings. However, to mitigate increased demand on library and community facilities, the City collects public facilities impact fees from new development based upon projected impacts from the development. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with the service or facility. The proposed project does not include any other public facilities such as libraries, community/recreation buildings, etc.

The proposed Project is anticipated to include an approximately 20,000 square foot clubhouse building with fitness center, restaurant, lounge, event/meeting space, and a variety of outdoor amenities including a pool/spa, outdoor BBQ and seating area, tennis/pickle ball courts, bocce ball courts, community garden area, and other amenities. The clubhouse is a private facility and would not be operated by the City for public use. The proposed project does include a Community Park located directly north of the clubhouse, which is anticipated to provide various public recreational activities for residents and nearby neighbors to socialize and connect.

The proposed Project could result in new demands on other public services such as libraries, etc. The City collects impact fees from new development based upon projected impacts from each development, including impacts on other public services. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with services provided. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would fund capital and labor costs associated with these other public services.

The proposed Project does not trigger the need for new other public facilities, such as libraries, and consequently, none are not proposed at this time. Implementation of the proposed Project would have a ***less-than-significant*** impact relative to this topic.

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This section of the EIR analyzes the potential impacts of the proposed Project on the surrounding transportation system including roadways, bicycle/pedestrian facilities, and transit facilities/services. This section identifies the significant impacts of the proposed Project and recommends mitigation measures to lessen their significance. An evaluation of vehicular access to the Project Area is also provided. All technical calculations are in the Appendix G of the Draft EIR.

3.13.1 ENVIRONMENTAL SETTING

PROJECT LOCATION

The proposed Project is located in the unincorporated area of Stanislaus County and adjacent to the City of Riverbank, north of Patterson Road/State Route (SR) 108, east of McHenry Avenue, and approximately two miles northwest of downtown Riverbank. Figures 2.0-1 shows the Project's regional location and vicinity.

The proposed Project includes a proposed Specific Plan, as well as a Sphere of Influence (SOI) Amendment. The entire Project Area includes approximately 1,522 acres within the unincorporated county adjacent to the City of Riverbank. The River Walk Plan Area includes a 997-acre area to be annexed and subsequently developed. The remaining land within the Project Area is part of the SOI Amendment, and would be held as Reserve land for possible long-range planning at some future time.

The overall Project Area includes several distinct planning boundaries defined below. The following terms are used throughout this DEIR to describe planning area boundaries within the Project Area:

- SOI Expansion Area – includes the proposed Sphere of Influence Amendment and encompasses the entire Project Area.
- Specific Plan Area - includes all lands identified and included within the River Walk Specific Plan. The Specific Plan Area is proposed to be annexed into the City of Riverbank as part of the proposed Project. The Specific Plan Area is a portion of the SOI Expansion Area.
- Berghill Boundary – includes areas within the Specific Plan Area that are controlled by the project applicant.
- Project area - includes the SOI expansion area, including the Specific Plan and Berghill Boundary. The Project Area is the same boundary as the SOI Expansion Area.

PROJECT AREA ROADWAYS AND INTERSECTIONS

Roadways

Regional access to the Project Area is currently provided by many roads that fall under the jurisdiction of the City of Riverbank, as well as roads maintained by the City of Modesto, Stanislaus County, and Caltrans. Patterson Road (SR 108), McHenry Avenue (SR 108), and Claribel Road connect the Specific Plan Area with the northern Modesto and SR 99 area to the west and with the Oakdale area to the east. McHenry Avenue also links the Specific Plan Area with San Joaquin County to the north. North-south streets such as McHenry Avenue, Coffee Road and Oakdale Road connect

the Specific Plan Area with the Modesto area to the south. The text which follows describes study area roadways.

Two major streets generally adjoin the Specific Plan Area:

Patterson Road is a major east-west arterial that extends easterly through Riverbank from an intersection on McHenry Avenue across rural Stanislaus County into the area south of Oakdale to its eastern terminus at the Albers Road – Oakdale – Waterford Highway intersection. The segment from McHenry Avenue through western Riverbank to Callander Avenue is also SR 108. The ultimate plan for Patterson Road is a four-lane facility. Today, Patterson Road is a two-lane rural highway from McHenry Avenue to the Hot Springs Lane intersection in western Riverbank. The route is then a four-lane facility from that point east to Jackson Avenue and is a two-lane road from Jackson Avenue through the Callander Avenue intersection. Patterson Road continues east after it leaves SR 108 as a two-lane road through Riverbank. The posted speed limit on Patterson Road is 35 miles per hour (mph) immediately east of McHenry Avenue, 50 mph east of Coffee Road to the Riverbank city limit, and 45 mph from the city limit to Oakdale Road.

Caltrans traffic counts for SR 108 for 2019 indicated that Patterson Road carried an *Annual Average Daily Traffic* (AADT) volume of 13,600 vehicles per day (vpd) east of McHenry Avenue to Coffee Road, 15,000 vpd from Coffee Road to Oakdale Road, and 16,700 vpd east of Oakdale Road.

McHenry Avenue is a major north-south minor arterial that extends from the City of Modesto across the Stanislaus River to Escalon in San Joaquin County. The portion of McHenry Avenue south of Patterson Road is also SR 108. McHenry Avenue varies in width, as the roadway has six lanes south of Coralwood Road in Modesto, four-lanes from Coralwood Road through the Kiernan Avenue – Claribel Road intersection and two-lanes north into San Joaquin County. McHenry Avenue is planned as a four-lane facility within a 110 foot right of way. Stanislaus County has recently completed a project to widen northern McHenry Avenue over the Stanislaus River to four lanes, and other widening consistent with the ultimate standard has occurred on the west side of the road south of Stewart Street and at the Patterson Road intersection. Stanislaus County has completed the widening of McHenry Avenue north of Ladd Road to four lanes. The posted speed limit on McHenry Avenue is 55 mph north of the Patterson Road intersection and 45 mph northerly from a point 2,100 feet south of River Road.

Caltrans traffic counts indicate that in 2019 McHenry Avenue carried 19,200 AADT south of Kiernan Avenue and 12,700 AADT to the north. The volume was reported at 13,300 AADT south of Patterson Road. Recent traffic counts are higher than the Caltrans AADT. Truck comprised seven percent of the daily traffic on McHenry Avenue north of Kiernan Avenue.

The north-south streets within the study area include:

Coffee Road is a north south minor arterial street that today extends south from Patterson Road across Claribel Road into Modesto and to its southern terminus on Scenic Drive along the Tuolumne River. Coffee Road is a two-lane facility from Patterson Road to Mable Avenue and is a four-lane

facility from that point south. The rural 55 mph prima facie speed limit applies to Coffee Road south of Patterson Road.

Traffic counts made for this study in 2020 indicated that Coffee Road carried 3,988 vpd from Patterson Road to Westgate Drive (Crawford Road), 6,168 vpd between Westgate Drive (Crawford Road) and Claribel Road and 12,393 vpd south of Claribel Road.

Oakdale Road is a major north-south arterial that extends from an intersection on Patterson Road (SR 108) south through Riverbank into Modesto to its southern terminus on Scenic Drive where the route becomes El Vista Avenue. Oakdale Road is a divided four-lane facility in most of Riverbank, but the segment from Morrill Road to Westgate Drive (Crawford Road) has a single southbound lane. Riverbank has plans to widen and complete this section in 2023-2024. Oakdale Road narrows to two-lanes in Modesto between Claribel Road and Claratina Avenue. The route gains a second southbound lane south of Claratina Avenue and is four-lanes south of Sylvan Avenue. The posted speed limit on Oakdale Road is 45 mph in Riverbank.

Traffic counts in March 2020 indicated that Oakdale Road carried 13,548 vpd between Patterson Road and Morrill Road, 13,801 vpd between Morrill Road and Westgate Drive (Crawford Road), 17,306 vpd between Westgate Drive (Crawford Road) and Claribel Road, and 18,816 vpd between Claribel Road and Claratina Avenue.

Skittone Road is a local Stanislaus County Road that extends south from Patterson Road to Westgate Drive (Crawford Road). This two-lane rural road provides access to a few rural residences. Based on the peak hour volume at the Patterson Road intersection, Skittone Road is estimated to carry less than 200 vpd.

Hot Springs Lane, Rock Creek Road and **Silverock Road** are two-lane local City of Riverbank streets that intersect Patterson Road (SR 108) opposite the Project area at the western end of the existing Riverbank city limits. Hot Springs Road and Rock Creek Road provide access to roughly 70 existing homes, and these roads do not extend beyond the limits of this neighborhood. The estimated daily traffic volume on either street is estimated at 400 vpd. Silverock Road connects Patterson Road and Oakdale Road, and about 175 homes have access via the street. The daily traffic volume on this street would be in the range of 1,200 to 1,500 vpd, depending on the location.

The area circulation system includes these east-west streets:

Morrill Road is an east-west collector street that runs from Coffee Road to Roselle Avenue through western Riverbank. Morrill Road is a two-lane facility. Traffic counts conducted for this study indicated that Morrill Road carried 2,472 vpd between Coffee Road and Oakdale Road in 2020.

Westgate Drive (Crawford Road) is a discontinuous east-west road in the area between McHenry Avenue and Oakdale Road. The segment of Crawford Road within Riverbank city limits was renamed Westgate Drive. One segment connects McHenry Avenue and Skittone Road, and another extends easterly from Coffee Road across Oakdale Road to Roselle Avenue. Westgate Drive (Crawford Road) is a two-lane roadway in both areas. The western areas of both segments of Westgate Drive

(Crawford Road) provides access to several rural residences. To minimize traffic in the eastern area, a raised median was installed in the Oakdale Road / Westgate Drive (Crawford Road) intersection to preclude east-west through traffic. That feature is being eliminated with the Crossroads West Specific Plan[1], and eventually the eastern segment will be re-routed to a new intersection on Coffee Road further north.

Claribel Road is a major east-west Arterial that extends easterly from an intersection on McHenry Avenue (SR 108) at Kiernan Avenue along the south side of Riverbank into rural Stanislaus County beyond Oakdale-Waterford Highway. The Stanislaus County General Plan Circulation Element identified Claribel Road as a Minor Arterial in the areas that are not within the future North County Corridor (NCC) alignment. Claribel Road is designated an Arterial in the Riverbank General Plan Circulation Element. Today, Claribel Road is a four-lane facility from McHenry Avenue to Oakdale Road, but between Oakdale Road and Squire Wells Way the north side has been widened to its ultimate four-lane width. The posted speed limit is 45 mph.

Traffic counts conducted for this study in March 2020 indicated that Claribel Road carried 28,870 vpd in the area from McHenry Avenue to Coffee Road and 25,865 vpd from Coffee Road to Oakdale Road.

Claratina Avenue – Pelandale Avenue is an east-west expressway across northern Modesto from SR 99 to Oakdale Road. Today, Claratina Avenue is a two-lane road east of McHenry Avenue, but the City of Modesto is pursuing a project to widen Claratina Avenue to four-lanes.

Future North County Corridor (NCC) is a future plan for regional circulation in this area of Stanislaus County involve the development of bypass routes to reduce traffic on existing state routes and other major facilities. The North County Corridor (NCC) Expressway is expected to link SR 99 in northern Modesto with SR 120/108 east of Oakdale. The NCC is identified in the Riverbank General Plan Element and Stanislaus County General Plan Circulation Element. The NCC will become State Route 108 when completed.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

The pedestrian and bicycle facilities in the study area are described below.

Pedestrian System

The Stanislaus County 2021 Non-Motorized Transportation Plan[2] (NTP) provides information regarding existing and planned facilities for pedestrians and bicyclists in this area of the County.

A majority of roadways in the developed areas of the City of Riverbank provide sidewalks and crossings for pedestrians, but these facilities are limited in the rural areas of the community that have not been

[1] More info here: https://www.riverbank.org/437/Crossroads-West-Specific-Plan
[2] http://www.stancog.org/pdf/documents/final_nonmotorized_transportation_plan.pdf

developed and in the unincorporated areas of Stanislaus County near Riverbank. Pedestrians use paved shoulders along state highways. As noted in Table 3.13-1, sidewalks exist on SR 108 (Patterson Road) easterly from the Riverbank City limits.

TABLE 3.13-1: EXISTING SIDEWALK INVENTORY

STREET	*FROM*	*TO*	*SIDE*	*SIDEWALK*
SR 108 (Patterson Road)	McHenry Avenue	Coffee Road	North	None
			South	None
	Coffee Road	Hot Springs Lane	North	None
			South	None
	Hot Springs Lane	600 feet west of Oakdale Road	North	Non
			South	Yes
	600 feet west of Oakdale Road	--	North	Yes
			South	Yes
McHenry Avenue	Patterson Road	900 feet south of Stewart Street	West	No
			East	No
	900 feet south of Stewart Street	Stewart Street	East	No
			West	Yes
	Stewart Street	Stanislaus River Bridge	East	No
			West	No
	Stanislaus River Bridge	River Road	East	No
			West	Yes

SOURCE: KD ANDERSON & ASSOCIATES, INC., 2022.

Bicycle Facilities

The NTP provides guidance with regard to regional bicycle facilities and suggests the following classifications for bikeways:

- Class 1 Bikeways: Bike paths that are separated from vehicular traffic;
- Class 2 Bikeways: Bike lanes that are striped on streets alongside vehicular traffic;
- Class 3.5 Bikeways: Bike routes where bicycles and vehicles share the road but where wide shoulders are available;
- Class 3 Bikeways: Bike routes where bicycles and vehicles share the road but are only signed;
- Class 4 Separated Bike Lanes: Bikes lanes with physical separation between cyclists and other vehicles.

Today, dedicated bicycle facilities are limited in the area of the Specific Plan Area (NTP Appendix B.1).

Class 2 bike lanes exist on:

- Claribel Road from McHenry Avenue to Squire Wells Way west of Oakdale Road;
- Morrill Road east of Oakdale Road; and
- Westgate Drive (Crawford Road) east of Oakdale Road.

The NTP notes that cyclists using Paterson Road through Riverbank experience a high level of "Traffic Stress" (NTP Appendix B.2), as do cyclists on SR 108 and on McHenry Avenue north of Patterson Road.

The NTP identified "Potential Bicycle Barriers" (Appendix B.3), and in the study area those barriers are on Oakdale Road at the Modesto Main Canal crossing and at the crossing on Morrill Road east of Oakdale Road.

The NTP suggests these improvements:

- Patterson Road (SR 108) from McHenry Avenue east to the Riverbank city limit: Class 3.5 Bicycle Route (wide shoulders).
- Patterson Road (SR 108) from the city limit through Riverbank: Class 4 Separated Bicycle Lanes.
- McHenry Avenue (SR 108) south of Patterson Road: Class 3.5 Bicycle route (wide shoulders).
- In addition to the Modesto Irrigation District (MID) main canal trail, the previously-approved Crossroads West Specific Plan circulation plan identifies Class I trails extending south from the MID Main Canal trail along a new north-south collector street and along Oakdale Road to Claribel Road.

TRANSIT SERVICE

The StanCOG 2019 Transit Efficiency and Innovations Study[3] provides information regarding transit services in this area. Riverbank is served by one transit provider, Stanislaus Regional Transit (StaRT). StaRT offers fixed route services and reported 309,935 annual boardings in 2017-2018. This ridership was equal to 0.6 annual ride per capita. StaRT Route 60[4] operates Monday through Friday between 5:00 a.m. and 9:43 p.m. This route was reported to average 275 daily boardings with 8 passengers per revenue hour. This bus operates thirteen round trips between Modesto and Oakdale and passes through Riverbank. On Saturday between 6:15 a.m. and 8:34 p.m., seven round trips are provided. The Saturday service is combined with the Modesto/Turlock route. Route follows Claribel Road east to Oakdale Road and then east along Patterson Road to Oakdale. The designated stop closest to the Project Area is at the Oakdale Road / Patterson Road intersection.

Modesto Area Express (MAX) serves the City of Modesto and some outlying communities. MAX reported 2,175,283 boardings in 2017-2018, and this level of use was equal to 10.6 rides per capita. MAX Route 35 links the City of Escalon with northern Modesto destinations (i.e., Vintage Faire Mall and Kaiser Medical Center[5]), and this route follows McHenry Avenue in the area of the proposed Specific Plan. Route 35 runs three times daily on weekdays starting in Escalon at 8:12, 1:12 and at 4:12

In response to the 2019 Transit Efficiency and Innovations Study, StaRT and MAX merged under the direction of the Stanislaus Regional Transit Authority in February 2021.

Additionally, the Riverbank Dial-A-Ride service is available from 6:30 a.m. to 5:30 p.m. Monday through Friday. In 2017-2018, this service carried 1,209 passengers. The ADA Paratransit service is provided as a

[3] http://www.stancog.org/pdf/transit-efficieny-and-innovations-study.pdf
[4] https://www.srt.org/maps-schedules/
[5] https://www.modestoareaexpress.com/402/Route-35---Escalon-Transit-eTrans

compliment to fixed route service and is available to individuals with disabilities Monday 5:00 a.m. to 10:00 p.m. and Saturday service from 6:15 a.m. to 9:00 p.m. In 2017-2018, this service carried 5,389 passengers.

3.13.2 REGULATORY SETTING

Existing transportation policies, laws, and regulations that would apply to the proposed Project are summarized below. This information provides a context for the impact discussion related to the proposed Project's consistency with applicable regulatory conditions and development of significance criteria for evaluating Project impacts.

FEDERAL

No federal plans, policies, regulations, or laws pertaining to transportation have been determined to be applicable to this Project.

STATE

Senate Bill 743

Senate Bill (SB) 743 (Steinberg, 2013), enacted in 2013, created Public Resources Code section 21099, which directed the Governor's Office of Planning and Research (OPR) and the Secretary of the Natural Resources Agency to establish criteria for determining the significance of transportation impacts of projects within transit priority areas, with the option of creating new statewide criteria. The significance criteria for transit priority areas were to promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. In developing the new criteria, OPR and the Secretary were to recommend potential metrics that included, but were not limited to, vehicle miles traveled [VMT], vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated. Section 21099 further provided that, once the CEQA Guidelines had been updated as required by the statute, "automobile delay, as described solely by level of service [LOS] or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to [CEQA], except in locations specifically identified in the guidelines, if any."

Consistent with these directives, the Natural Resources Agency promulgated CEQA Guidelines section 15064.3, which became effective in late 2018. It provides that "[g]enerally, vehicle miles traveled is the most appropriate measure of transportation impacts," with VMT referring to "the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel." Rather than limit its scope only to transit priority areas, the section changed the approach to assessing transportation impacts under CEQA all over the State. By its own terms, however, the section did not require agencies to begin using VMT as a new metric until July 1, 2020. LOS had ceased to be a valid significance criterion as of late 2018, however. (See *Citizens for Positive Growth & Preservation v. City of Sacramento* (2019) 43 Cal.App.5th 609, 625-626.)

In December 2018, OPR published final technical guidance for implementing CEQA Guidelines Section 15064.3. While this document does not have the force of law, the technical guidance provides helpful information to agencies such as the City, and sets forth OPR's own understanding of the best strategies for implementing Section 15064.3.

Caltrans

Caltrans is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways in California. Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the state highway system within the City of Riverbank need to be approved by Caltrans. The City of Riverbank does not have the ability to unilaterally make improvements to the state highway system.

TRAFFIC STUDY GUIDELINES

The Caltrans document *Transportation Impact Study Guide* (California Department of Transportation 2020) identifies circumstances under which Caltrans determines that a traffic impact study would be required. The document also details information that is to be included in the study, analysis scenarios, and guidance on acceptable analysis methodologies, including CEQA focus on VMT rather than level of service (LOS), alternative transportation modes and safety.

STATE ROUTE 108 TRANSPORTATION CONCEPT REPORT

The Caltrans document *Transportation Concept Report – State Route 108 - District 10* (California Department of Transportation 2014) (TCR) is applicable to the highway. A TCR is a long-term planning document that each Caltrans district prepares for every state highway or portion thereof in its jurisdiction. This document usually represents the first step in Caltrans' long-range corridor planning process. The purpose of a TCR is to determine how a highway will be developed and managed so that it delivers the targeted LOS and quality of operations that are feasible to attain over a 20-year period. These are indicated in the "route concept." In addition to the 20-year route concept level, the TCR includes an "ultimate concept," which is the ultimate goal for the route beyond the 20-year planning horizon. Ultimate concepts must be used cautiously, however, because unforeseen changes in land use and other variables make forecasting beyond 20 years difficult. TCRs do not necessarily consider the amount, type, and location of development within local agency General Plans According to the SR 108 TCR, SR 108 from McHenry Avenue to Oakdale Road is designated as part of the IRRS, is subject to the general LOS criteria (LOS C) and is ultimately a four-lane facility. The Concept Level of Service is LOS D east of Oakdale Road.

LOCAL

City of Riverbank General Plan

GOALS: CIRCULATION

- CIRC-1 Riverbank's Circulation Network Provides Convenience and Choice among All Modes of Transportation.

- CIRC-2 The City's Urban Development Pattern Supports All Locally Available Modes of Transportation.
- CIRC-3 Increase the Availability and Use of Transit.
- CIRC-4 Move Freight and Passengers Efficiently.

POLICIES: CIRCULATION

- CIRC-1.1 Approved plans, projects, and subdivision requests in new growth areas shall include the construction or pro-rata funding of transportation infrastructure that includes a connected and integrated system of bicycle facilities and pedestrian facilities, designed to comply with the Americans with Disabilities Act.
- CIRC-1.2 Approved plans, projects, and subdivision requests in new growth areas shall provide a fully connected network of smaller roadways that provide many alternative routes between each point of origin and destination.
- CIRC-1.3 Approved projects, plans, and subdivision requests in new growth areas shall arrange streets in an interconnected block pattern, so that pedestrians, bicyclists, and drivers are not forced onto arterial streets for inter- or intra-neighborhood travel. This approach will also ensure safe and efficient movement of emergency responders.
- CIRC-1.4 Approved projects, plans, and subdivision requests with an internal street network shall provide an internal connectivity index of 1.4 or higher. The connectivity index is calculated by dividing the total number of road segments the number of nodes. Nodes are intersections plus cul-de-sacs. Roadway segments are between intersections. Cul-de-sacs are prohibited except where physical constraints make any other roadway solution impossible. The City may require higher levels of connectivity, beyond this standard, and will review plans and projects to take advantage of opportunities to provide more connectivity.
- CIRC-1.5 Approved projects, plans, and subdivision requests shall connect with adjacent roadways and stubbed roads and shall provide frequent stubbed roadways in coordination with future planned development areas. Plans and projects shall connect to adjacent planned development areas and adjacent roadways at a minimum of 600-foot intervals. This minimum interval does not apply to development areas that are adjacent to existing or planned future limited-access highways, freeways, or expressways.
- CIRC-1.6 Approved projects, plans, and subdivision requests shall provide a roadway network such that driving distance from any dwelling to the nearest collector street is a maximum of 2,000 feet and no more than three turning movements at intersections are required in order to travel from any home to a collector street
- 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.
- CIRC-1.8 City street improvement standards and the street classification system will reflect the need to accommodate the full range of locally available travel modes.

- CIRC-1.9 In new and existing developed areas, the City will invest in a convenient, well-maintained, and safe system of pedestrian and bicycle paths that connect residences with shopping centers, public buildings, parks, places of employment, and schools.
- CIRC-1.10 The City will incorporate pedestrian and bicycle improvement projects into the City's Capital Improvements Program.
- CIRC-1.11 The City's level of service standards will balance the need to provide convenient vehicular travelways during peak hours of demand with other community goals, such as the desire to accommodate pedestrian and bicycle access.
- CIRC-1.12 The City will use Level of Service D as the goal for roadway segments, as measured on a daily basis. The City's goal for peak hour intersection level of service is LOS D. The City may elect to exceed of these standards in favor of other community planning and environmental goals and policies.
- CIRC-1.13 City environmental documents and associated mitigation programs will explicitly consider compact development, mixing of land uses, affordable housing, and other pedestrian, bicycle, and transit oriented design elements that generate fewer vehicle trips. Such approved plans, projects, and subdivision requests will have a correspondingly lower contribution toward any roadway or intersection improvement mitigation measures required in City environmental documents.
- CIRC-1.14 The City will ensure provision of signage and secure storage facilities in appropriate locations for bicycles.
- CIRC-1.15 The City will ensure that the pedestrian network is safe, accessible, attractive and efficient, running largely along public spaces (including streets and open spaces) fronted by houses, and avoids uses that generate major breaks in surveillance on routes to and from public transport and other routes used at night.
- CIRC-2.1 Approved plans, projects, and subdivision requests in new growth areas shall include the construction or pro-rata funding of transportation infrastructure that includes a connected and integrated system of bicycle facilities and pedestrian facilities, designed to comply with the Americans with Disabilities Act.
- CIRC-2.1 Approved plans, projects, and subdivision requests in new growth areas will provide an appropriate balance of higher-activity land uses, such as schools, parks, retail and commercial services, small offices, civic uses, apartments, in accessible neighborhood centers. Higher-activity land uses shall not be focused in a linear pattern along large roadways.
- CIRC-2.2 The City will not allow large, unbroken surface parking lots, which unnecessarily inhibit travel on foot and by bicycle. Please refer also to Community Character and Design Element policies that address the location and nature of surface parking.
- CIRC-2.3 Approved projects, plans, and subdivisions shall provide shade trees in parking areas at a ratio of at least one tree for every four parking spaces. These trees shall be dispersed throughout the parking area.
- 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.

- CIRC-2.5 The City will be flexible in parking requirements or eliminate off-street parking requirements for redevelopment, infill, and multifamily projects by allowing cooperative shared use of parking between properties with different parking demand peaking periods, utilization of on-street parking spaces to meet parking requirements, allowing parking reductions for projects located in walkable areas with improvements that accommodate alternative forms of travel, and allowing parking reductions for multi-family development to reflect the trip generation characteristics of this type of development.
- CIRC-2.6 The City will pursue in the existing developed area, and require in new growth areas pedestrian amenities, such as street furniture, shade trees, pedestrian lighting, water fountains, and pedestrian oriented signage.
- CIRC-2.7 The City will encourage and support appropriate home-based businesses in residential areas and telecommuting centers in appropriate areas.
- CIRC-3.1 The City will coordinate planning efforts and project entitlements with the Riverbank Oakdale Transit Agency, the Stanislaus Area Regional Transit District (START), and any future providers serving Riverbank to enhance and expand transit services throughout the City and surrounding region.
- CIRC-3.2 The City will promote the development, improvement, expansion, and increased ridership of transit within the City, including the development of new transit agencies and new forms of transit, as they become available.
- CIRC-3.3 Approved plans, projects, and subdivision requests will accommodate transit facilities consistent with transit agency planning.
- CIRC-3.4 When transit stops are required in existing developed portions of Riverbank or new growth areas, the City will ensure that stops are safe, convenient, comfortable, well maintained, and complementary to the urban design in the surrounding vicinity.
- CIRC-3.5 The City will coordinate with local and regional transit providers in developing transit plans that link important origin and destination points affecting Riverbank residents and businesses.
- CIRC-3.6 The City will support and provide incentives to encourage local businesses and transit providers to develop transit incentive programs.
- CIRC-3.7 The City will coordinate with all agencies involved in planning for a future east-west expressway through northern Stanislaus County to ensure that transit service is provided along the route, including potentially the use of HOV/transit only lanes during peak hours.
- CIRC-4.1 The City will work with relevant public agencies and the railroad to appropriately regulate the movement of truck traffic and hazardous materials throughout the City.
- CIRC-4.2 The City will enforce weight limits as a means to safely regulate truck traffic in noise sensitive areas, such as residential neighborhoods and near schools and hospitals.
- CIRC-4.3 The City will ensure that signage indicating weight limits is clearly posted throughout the City.
- CIRC-4.4 The City will support the development and implementation of a quick-response emergency services program for railroad corridors and continue to support the County's Hazardous Materials Team.

- CIRC-4.5 The City will coordinate with rail transportation operators, such as BN&SF and Amtrak, to ensure safe and reliable rail transportation in and through the Planning Area.
- CIRC-4.6 The City will limit, with a maximum weight limits, truck traffic to appropriate routes. Truck routes include Highway 108 through the City (Patterson Road, Callander Avenue, and Atchison Street), Roselle Avenue, First Street in the downtown area, Claus Road, Claribel Road, Snedigar Avenue, and Coffee Road. Areas of the aforementioned listed streets not within the City limits will be formally designated by the City upon any annexation that may occur in the future. Although Claribel Road may not be fully within City limits, it is likely that this would be a major roadway serving the County at some point in the future and appropriate for truck traffic. The City will designate, post signage, and otherwise restrict truck traffic from using other streets, with an emphasis on streets that are primarily residential. Trucks may go by direct route to and from restricted streets, where required for the purpose of making pickups and deliveries of goods, but are otherwise restricted to truck routes.

City of Riverbank Impact Fee Program

The City of Riverbank has adopted a mitigation fee program to address the impacts of anticipated development. The current program was updated in 2020. Table 3.13-2 identifies the location of planned improvements in the study area that are addressed by the fee program.

TABLE 3.13-2: CITY OF RIVERBANK MITIGATION FEE TRANSPORTATION IMPROVEMENTS

INDEX	*LOCATION*	*IMPROVEMENT*
14	SR 108	Widen to 4 lanes from McHenry Ave to Coffee Rd
15	SR 108	Widen to 4 lanes from Coffee Rd to Oakdale Rd
16	SR 108	Widen to 4 lanes from Estelle Ave to Jackson St
22	Claribel Rd	Widen to 4 lanes from Squire Wells Way to Roselle Ave
27	Roselle Ave	Build to Ultimate configuration from Patterson Rd to Claribel Rd
29	Claus Rd	Widen to 4 lanes from Townsend St to Claribel Rd
30	SR 108 / Coffee Rd	Construct Traffic Signal
41	Hetch Hetchy Trail System	Trail System Improvements
	Coffee Rd	Widen to 4 lanes from Claribel Rd to Patterson Rd
	Oakdale Rd	Widen to 4 lanes from MID Canal to Westgate Drive (Crawford Rd)
	Oakdale Rd	Widen to 4 lanes from Claribel Rd to MID Canal
	Claribel Rd	Widen to 4 lanes from MID lateral #6 to Oakdale Rd
	Claribel Rd	Intersection Improvements Claribel Rd @ Oakdale Rd

SOURCE: CITY OF RIVERBANK FINAL NEXUS FEE STUDY, WILDAN, JULY 16, 2020.

Public Facilities Fee Program / Regional Traffic Impact Fee

Development in Stanislaus County and its incorporated cities pay fees toward the cost of circulation system improvements of regional benefit through the Public Facilities Fee (PFF) program's Regional Transportation Impact Fee (RTIF). The PFF was last published in September 2017. The planned update to the Stanislaus County Public Facilities Fee have yet to be adopted. The draft regional fees project list is shown in Table 3.13-3.

TABLE 3.13-3: STANISLAUS COUNTY REGIONAL TRANSPORTATION FEE PROJECTS

STREET	*LOCATION*	*IMPROVEMENT*
North County Corridor	SR 99 to SR 120	New Expressway
McHenry Avenue	Ladd Road to San Joaquin County	5 lanes

SOURCE: ADM DRAFT STANISLAUS COUNTY COMPREHENSIVE PUBLIC FACILITIES IMPACT FEE UPDATE, WILDAN, SEPTEMBER 15, 2017.

City of Modesto

CFFs are impact fees established to mitigate the impacts of new development as outlined in Section 66000 of the California Government Code. These fees may be used for the purchase, construction, expansion, rehabilitation, or acquisition of public facilities, including street improvements. CFF projects in the study area are listed in Table 3.13-4.

TABLE 3.13-4: MODESTO CAPITAL FACILITIES FEE PROJECTS

STREET	*LOCATION*	*IMPROVEMENT*
Claratina Avenue	McHenry Avenue to Coffee Road	6 lanes
	Coffee Road to Oakdale Road	6 lanes
	Oakdale Road to Roselle Road	6 lanes
	Roselle Avenue to R/R Tracks	4 lanes
Claus Road	Claribel Road to Sylvan Avenue	6 lanes
	Sylvan Avenue to Floyd Road	4 lanes
Coffee Road	Claribel Road to Claratina Avenue	4 lanes
	Claratina Avenue to Mable Avenue	4 lanes
McHenry Avenue	Kiernan Avenue to Pelandale Avenue	6 lanes
	Pelandale Avenue to Standiford Avenue	6 lanes
Oakdale Road	Claribel Road to Claratina Avenue	6 lanes
	Claratina Avenue to Sylvan Avenue	6 lanes
Roselle Avenue	Claribel Road to Claratina Avenue	4 lanes
	Claratina Avenue to Sylvan Avenue	4 lanes
Sylvan Avenue	McHenry Avenue to Oakdale Road	6 lanes
Claratina Avenue	Coffee Road	New
Claratina Avenue	Oakdale Road	New
Claratina Avenue	Roselle Avenue	New
Claribel Road	Oakdale Road	New
Claribel Road	Roselle Avenue	New
Claribel Road	Claus Road	New

SOURCE: DOCUMENTATION OF JUSTIFICATION FOR IMPACT FEE MITIGATION, TOWN HALL SERVICES AND OMNI-MEANS, JUNE 3, 2003, APPENDIX VIII-A.

Stanislaus Council of Governments

2018 REGIONAL TRANSPORTATION PLAN

The Regional Transportation Plan (RTP) is the region's blueprint for future transportation improvements and investments based on specific transportation goals and objectives defined by StanCOG, the public and elected officials. The RTP is a 25-year planning tool prepared by the

Metropolitan Planning Organization (MPO) to encourage and promote the safe and efficient management, operation and development of a regional intermodal transportation system that will serve the mobility needs of goods and people. The RTP covers all modes of a complete transportation system, including roadways, transit, bicycle/pedestrian improvements and aviation.

Transportation helps shape an area's economic health and quality of life; it influences the pattern of growth and economic activity through accessibility to land. Transportation also affects other public policy issues, like air quality, affordable housing, jobs/housing balance, and safety among many others. Transportation planning recognizes the critical links between transportation and other societal goals. The RTP process is more than merely listing highway and transit projects; it requires developing strategies for operating, managing, maintaining and financing the region's transportation system in such a way as to advance the region's long-term goals.

As the Metropolitan Planning Organization (MPO) and Regional Transportation Planning Agency (RTPA) for the Stanislaus region, StanCOG updates the RTP every four years. StanCOG adopted its 2018 RTP on August 15, 2018.

2021 NON-MOTORIZED TRANSPORTATION PLAN

The StanCOG Non-Motorized Transportation Plan sets goals, assesses existing conditions, and identifies opportunities to improve non-motorized travel options and increase access to public transportation in the Stanislaus Region. It Identifies priority bicycle and pedestrian facilities that enhance regional connectivity and existing barriers such as railways, freeways, and waterways. This Plan helps identify and align new walking and bicycling projects with local, state, and federal funding sources to help make Stanislaus communities more competitive for future funding.

REGIONAL TRANSPORTATION IMPACT FEE

The San Joaquin Council of Governments (SJCOG) administers the regional fee for development in San Joaquin County. The fee was last updated in 2017. McHenry Avenue and River Road are in the RTF network, but review of the fee programs project list indicates that there are no candidate projects in the study area.

3.13.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The transportation analysis assesses how the study area’s transportation system would operate with the implementation of the proposed Project. The analysis includes effects that would result in significant impacts as set forth in the CEQA Guidelines.

The proposed Project’s impact is not considered to be significant unless it would:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- Conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).

- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

Significance criteria "b" is related to the implementation of VMT as the primary performance metric.

CEQA Guideline Section 15064.3, Subdivision (b)

With the exception of Policy CIR 1.12, which defines Level of Service (LOS) minimum and exceptions, the City has not adopted formal transportation impact analysis guidelines to identify for determining CEQA impacts under SB 743. Policy CIR 1.12 is not discussed below because, as discussed earlier, Section 21099 further provided that, once the CEQA Guidelines had been updated as required by the statute, "automobile delay, as described solely by level of service [LOS] or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to [CEQA], except in locations specifically identified in the guidelines, if any." (Public Resources Code Section 21099[b][2].) LOS remains relevant for purposes of assessing the proposed Project's compliance with the City's General Plan, but is no longer a permissible consideration in a CEQA analysis.

Instead, the following guidance set forth in the OPR Technical Advisory on Evaluating Transportation Impacts in CEQA has been employed.

OPR directive identifies screening criteria relating to project size, locally serving retail, affordable housing, proximity to transit, etc. The criteria identify projects that can be presumed to have a less than significant impact on regional VMT.

The OPR directive identified a statewide goal for a 15% reduction in overall VMT, and suggest that a project's impact on the regional VMT is significant if the average VMT "per capita" for residences or "per employee" VMT or employment centers that is not fifteen percent below that of existing development. This threshold has been addressed.

As a mixed-use project, the individual components of the proposed Specific Plan may be considered based on individual VMT metrics. Because the Specific Plan includes several components that are not applicable to per capita or per employee metrics, (i.e., Mixed Use) this analysis also considers the Specific Plan's combined effect on total regional VMT. Any increase in total regional VMT resulting from the Specific Plan is a significant impact.

Transit, Roadway, Bicycle, and Pedestrian Facilities

These criteria have been applied:

A project is considered to have a significant impact on bicycle or pedestrian facilities if it would:

- eliminate or adversely affect an existing bikeway or pedestrian facility in a way that would discourage its use;

- interfere with the implementation of a planned bikeway as shown in the Bicycle Master Plan; or
- result in unsafe conditions for bicyclists or pedestrians, including unsafe bicycle/pedestrian, bicycle/motor vehicle, or pedestrian/motor vehicle conflicts.

A proposed Project is considered to have a significant impact on the public transit system if the proposed Project would generate ridership which may exceed available or planned system capacity, or create a demand for service that cannot reasonably be accommodated by existing transit services.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-1: Implementation of the Specific Plan would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. (Significant and Unavoidable)

Development associated with the proposed Plan would increase the amount of multimodal transportation activity which would require the improvement and expansion of the local transportation network in the Specific Plan Area to serve the associated travel demand. The significance of the Specific Plan's multi-modal impacts is discussed below.

TRANSIT SERVICE AND FACILITIES

StaRT routes do not pass directly by the Specific Plan Area, but MAX Route 35 passes on McHenry Avenue. While the Specific Plan adds additional intersections and traffic on Patterson Road and McHenry Avenue, the Specific Plan does not physically disrupt an existing transit service or facility nor interfere with implementation of a planned transit service or facility. Because LOS remains within minimum Riverbank General Plan standards, the Specific Plan would not result in increased travel time for busses that adversely effects on-time performance.

The Specific Plan would likely generate transit riders, particularly if Route 35 were to stop at the McHenry Avenue / Coffee Road intersection; however, based on current use of the StaRT and Max routes, if the Specific Plan's ridership followed current patterns, the Specific Plan would not result in increased transit ridership demands that result in passenger loads that exceed vehicle loading standards. As the Specific Plan Area access is not adjacent to any transit facility, the Specific Plan does not result in increased potential for safety conflicts involving transit vehicles and other modes of travel. It is noted, however, that new transit service is desired within the Specific Plan Area, and turnouts and bus stops will be provided to accommodate transit in coordination with the transit providers.

The Specific Plan's impact to transit service and facilities would be ***less than significant***.

BICYCLE FACILITIES

The Specific Plan does not interfere with use of the existing paved shoulders on McHenry Avenue and Patterson Road by bicyclists. The Specific Plan proposes to widen Patterson Road in a manner that would provide eight-foot-wide shoulders per Caltrans standards. The Specific Plan does not interfere with implementation of a planned bicycle facility. Some proposed residents may elect to ride bicycles within and outside of the Specific Plan Area for recreation, to retail destinations, entertainment, employment and schools, and the amount of proposed bicycle travel has been considered. In communities with much more developed bicycle facilities, five percent of the residentially-generated person trips could be made by bicycle. At that very conservative rate, 60 to 80 daily bicycle trips could be made by the proposed Specific Plan. This level of use would not result in a significant increase in bicyclists on a facility that does not have adequate bicycle facilities, such that conflicts between bicyclists and other travel modes are likely to increase. It is noted that the Specific Plan includes a variety of bicycle facilities, include the River Walk Trail, and are intended to facility bicycle use within the Specific Plan Area largely for recreation and access to internal Specific Plan amenities.

The Specific Plan's impact to bicycle facilities would be ***less than significant***.

PEDESTRIAN FACILITIES

The Specific Plan includes sidewalks on proposed streets, and a comprehensive on-site trail system to be provided. Proposed improvements to SR 108 (Patterson Road) will include sidewalks. The Specific Plan does not physically disrupt an existing pedestrian facility. It is very likely that some residents will travel on foot to reach destinations that are relatively close to their residences, such as commercial areas, parks, clubhouse, and trails. The extent to which safety issues could occur on these pedestrian facilities has been considered.

With implementation of planned improvements on SR 108 (Patterson Road), a 400-foot gap will remain between the Specific Plan's sidewalk on Patterson Road and the existing sidewalk that ends west of Oakdale Road. Increased pedestrian volume in this area represents a potential safety concern. This is a ***potentially significant*** impact.

As the previously-approved Crossroads West Specific Plan proceeds, the MID Main Canal trail will become a likely pedestrian route between the Specific Plan Area, the Riverbank Sports Complex and Crossroads Shopping Center. Increased pedestrian activity across SR 108 is a safety issue due to the speed of vehicles in this area. This is a ***potentially significant*** impact.

MITIGATION MEASURE(S)

Mitigation Measure 3.13-1: *The Project Applicant shall work with the City of Riverbank and Caltrans to design improvements to create an all-weather route to the MID trail and to address the gap in facilities east of the Project Area on SR 108 and shall fund these improvements. The mitigation shall include a safe crossing on SR 108 which may be incorporated into a traffic signal or roundabout at one of the River Walk Specific Plan access intersections, or may take the form of a pedestrian hybrid*

beacon, subject to approval of Caltrans. This mitigation shall be installed when directed by the Riverbank City Engineer with Caltrans approval.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measure 3.13-1 would require the Project applicant to design and fund improvements to create an all-weather route to the MID trail and to address the gap in facilities east of the Project Area on SR 108. Because improvements to State facilities are subject to Caltrans approval, there is no assurance that Caltrans would approve the improvements included under Mitigation Measure 3.13-1. Because the City of Riverbank cannot ensure installation, Impact 3.13-1 may not be fully mitigated, and this impact is considered to be ***significant and unavoidable***.

Impact 3.13-2: Implementation of the Specific Plan would not conflict with or be inconsistent with CEQA Guideline section 15064.3, subdivision (b). (Significant and Unavoidable)

VMT refers to the amount and distance of vehicle travel attributable to a project. VMT generally represents the number of vehicle trips generated by a project multiplied by the average trip length for those trips. For CEQA transportation impact assessment, VMT is to be calculated using the origin-destination VMT method, which accounts for the full distance of vehicle trips with one end from the Project Area.

Because the City of Riverbank has not yet adopted guidelines or policies for dealing with VMT, the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR 2018) provides general direction regarding the methods to be employed and significance criteria to evaluate VMT impacts, absent polices adopted by local agencies. The directive addresses several aspects of VMT impact analysis, and is organized as follows:

- **Screening Criteria**: Screening criteria are intended to quickly identify when a project should be expected to cause a less-than-significant VMT impact without conducting a detailed study.
- **Significance Thresholds**: Significance thresholds define what constitutes an acceptable level of VMT and what could be considered a significant level of VMT requiring mitigation.
- **Analysis Methodology**: These are the potential procedures and tools for producing VMT forecasts to use in the VMT impact assessment.
- **Mitigation**: Projects that are found to have a significant VMT impact based on the adopted significance thresholds are required to implement mitigation measures to reduce impacts to a less than significant level (or to the extent feasible).

SCREENING CRITERIA

Screening criteria can be used to quickly identify whether sufficient evidence exists to presume a project will have a less than significant VMT impact without conducting a detailed study. However, each project should be evaluated against the evidence supporting that screening criteria to determine if it applies. Projects meeting at least one of the criteria below can be presumed to have

a less than significant VMT impact, absent substantial evidence that the proposed Project will lead to a significant impact.

The extent to which the proposed Specific Plan qualifies under each criterion is noted.

- **Small Projects:** Defined as a project that generates 110 or fewer average daily vehicle trips.
- **Affordable Housing:** Defined as a project consisting of deed-restricted affordable housing.
- **Local Serving Retail:** Defined as retail uses of 50,000 square feet or less can be presumed to have a less than significant impact.
- **Projects in Low VMT-Generating Area:** Defined as a residential or office project that is in a VMT efficient area based on an available VMT Estimation Tool. The proposed Project must be consistent in size and land use type (i.e., density, mix of uses, transit accessibility, etc.) as the surrounding built environment.
- **Proximity to High Quality Transit.** The directive notes that employment and residential development located within ½ mile of a high-quality transit corridor can be presumed to have a less than significant impact.

SCREENING EVALUATION

The extent to which the proposed Specific Plan's VMT impacts can he presumed to be less than significant has been determined based on review of the OPR directive's screening criteria and general guidance.

The OPR Small Project criteria is not applicable to the proposed Specific Plan. The Specific Plan is projected to generate 37,150 daily vehicle trips. As the 110 ADT threshold for automobiles is exceeded, the Specific Plan's VMT impact cannot be presumed to be less than significant based on this criterion.

The OPR directive provides this explanation for a Presumption of Less Than Significant Impact for Affordable Residential Development:

> Adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT. Further, "… low-wage workers in particular would be more likely to choose a residential location close to their workplace, if one is available." In areas where existing jobs-housing match is closer to optimal, low income housing nevertheless generates less VMT than market- rate housing. Therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. Evidence supports a presumption of less than significant impact for a 100 percent affordable residential development (or the residential component of a mixed-use development) in infill locations. Lead agencies may develop their own presumption of less than significant impact for residential projects (or residential portions of mixed use projects) containing a particular amount of affordable housing, based on local circumstances and evidence. Furthermore, a project which includes any affordable residential units

may factor the effect of the affordability on VMT into the assessment of VMT generated by those units.

The Specific Plan's residences have not been designated as an affordable housing development, and the impacts cannot be presumed to be less than significant based on this screening criteria.

Some individual elements of the proposed Specific Plan may be presumed to have a less than significant impact on regional VMT as Local Serving Retail uses. Under the assumptions made herein, the retail uses in the MU-6 area would be less than the 50,000 square feet OPR threshold that would allow them to be presumed to have a less than significant impact. Based on their size, the balance of the Specific Plan's mixed-use areas is likely to develop with uses that exceed the 50,000-sf threshold.

The City of Riverbank and Stanislaus County have not yet identified Low VMT generating locations within their jurisdiction, so this screening criterion is not applicable.

VMT ESTIMATION

The regional travel demand model employed for both the NCC EIR and the City of Riverbank's previously-approved Crossroads West Specific Plan EIR and that was used to forecast future traffic volumes for this report's traffic operational analysis was also employed to estimate regional VMT. This model was selected over other choices for the following reasons:

- The City of Riverbank General Plan traffic model has not been updated since the GP was adopted and may no longer reflect current conditions or anticipated regional growth.
- The StanCOG RTP/SCS regional traffic model base year forecasts for the Specific Plan Area were less accurate than NCC.

As with other tour-based regional travel demand forecasting model, the NCC EIR model has the ability to estimate regional vehicles miles traveled over the length of the trip within the context of its modeling area. The modeling area covers all of Stanislaus County and extends into San Joaquin and Merced Counties. The model area extends to SR 120 including the SR 99 / SR 120 interchange in Manteca. To the west the model area extends to Intestate 5. To the south the model extends through Turlock to the Merced County line.

The NCC model represents the applicable "region" for this analysis but does not cover the entire modeling area encompassed by the Tri-County traffic model being employed by the Stanislaus Council of Government's pending 2020 RTP/SCS update. The model includes the breadth of the Stanislaus, San Joaquin and Merced Counties but is not available for use in this analysis.

PROJECT VMT ESTIMATES

As with most tour-based regional travel demand forecasting model, the NCC EIR model has the ability to estimate regional VMT for the entire model area or for individual traffic analysis zones. This model is preferred to use when analyzing traffic volumes. Table 3.13-5 compares total model area VMT under base year and 2042 conditions with and without the proposed Specific Plan. As

shown, the residential uses within the proposed Specific Plan generate 75,640 VMT under the base condition, while non-residential uses generate 169,468 VMT. The Specific Plan generates a total of 245,108 VMT.

TABLE 3.13-5: TOTAL REGIONAL VMT COMPARISON

CONDITION	*LAND USE*	*TOTAL VMT*
Base Year	River Walk Specific Plan – Residential Only	74,640
	River Walk Specific Plan – Non-Residential	169,468
	River Walk Specific Plan Total	*245,108*
	Without River Walk Specific Plan	13,886,787[1]
	With River Walk Specific Plan	14,881,947
	Total Difference	*195,160*
	Difference Attributable to Non-Residential Use	*120,520*
2042	Without River Walk Specific Plan	21,712,316
	With River Walk Specific Plan	21,865,163
	Difference	*162,847*

NOTE: AS A COMPARISON, THE 2018 STANCOG RTP/SCS APPENDIX I TABLE 1 INDICATES 2018 TOTAL REGIONAL VMT OF 14,178,336.
SOURCE: KD ANDERSON & ASSOCIATES, INC., 2021.

Because of the relationship between residential and non-residential uses within the Specific Plan Area and within the Riverbank area, the actual effect of the Specific Plan on total regional VMT will be less than the sum of its individual estimates. For example, non-residential uses within the Specific Plan that serve residents will reduce VMT. Mixed-Use retail uses will also attract trips from current area residents and potentially reduce the distances they drive for goods and service. As indicated, the addition of land uses contained in the Specific Plan is estimated to increase total base year VMT by 195,160 or about 80 percent of the sum of the estimates for the individual uses. The net increase represents a 1.4 percent increase in the regional total.

NCC model Year 2042 total regional VMT is also presented for comparison. Under year 2042 conditions, the change caused by the proposed Specific Plan is less, (i.e., 162,847 VMT). This reduction would be expected to result as additional development occurs in the Modesto-Riverbank areas of northern Stanislaus County. The Specific Plan's mixed use retail areas would provide addition options for future residential development and incrementally reduce the length of shopping trips made in this area.

RESIDENTIAL VMT

The specific characteristics of the VMT caused by new residential development are a specific focus of SB 743. Residential VMT is expressed in terms of Average VMT per Capita or VMT per Dwelling Unit, as noted in Table 3.13-6. As indicated, the VMT characteristics of age restricted residences are lower than those of conventional dwellings, particularly in terms of VMT per dwelling. That difference occurs because age restricted dwellings have been found to generate roughly half of the

daily trips of conventional dwellings. The relative difference deceases, however, when a per capita metric is applied. Because age restricted dwellings have fewer residents per unit, the average VMT per capita for age restricted dwellings is roughly 77 percent to 80 percent of that for the Specific Plan's conventional dwelling units.

TABLE 3.13-6: RESIDENTIAL VMT METRICS

LAND USE	*AGE RESTRICTED?*	*VMT*	
		PER CAPITA	*PER DWELLING*
Detached Single Family	No	15.74	55.58
Detached Single Family	Yes	13.26	27.17
Attached Single Family	No	12.24	43.21
Attached Single Family	Yes	11.53	21.79

SOURCE: KD ANDERSON & ASSOCIATES, INC., 2021.

ANALYSIS / CONCLUSIONS

Because the City of Riverbank and Stanislaus County have not adopted significance criteria for evaluating VMT impacts, the Specific Plan's impacts must be judged against the criteria contained in the OPR directive.[6] Those criteria require 1) a 15 percent reduction from comparable baseline VMT within for the region or jurisdiction, and in case of non-residential uses no net increase in regional VMT. Based on the criteria, the following findings can be made:

With regards to residential development, because no relatable forecasts for the City of Riverbank or Stanislaus County are available, it is not possible to determine whether the Specific Plan's residences will generate VMT per capita rate that is 15 percent below the current area average (based on the geographic area covered by the regional travel demand model), as required under the OPR recommendation. Thus, it must be presumed that the VMT impact of the proposed residences is ***potentially significant***.

With regards to non-residential uses, the net increase in regional VMT caused by the Specific Plan's non-residential uses is the difference between the overall difference in total regional VMT (195,160 VMT) and the VMT caused by residential uses (74,640 VMT) is 120,520 VMT. Because this increase exceeds the OPR directive's threshold of no net increase in regional VMT, the impact of the Specific Plan's non-residential uses on regional VMT is also ***potentially significant***.

The extent to which the Specific Plan's VMT impacts can be reduced through mitigation have been considered based on the circumstances of the Plan.

[6] State of California, Governor's Office of Planning and Research, December 2018, Technical Advisory on Evaluating Transportation Impacts in CEQA

The proposed Specific Plan design already reflects many features that help reduce VMT, such as:

- Incorporate neighborhood electric vehicle network;
- Orient project towards transit, bicycle, and pedestrian facilities;
- Provide on-site goods and services.

Other measures that could be pursued include but are not limited to:

- **Improve Access to Transit.** Currently StaRT Route 60 passes through the Oakdale Road / Patterson Road intersection. A privately funded shuttle service could link the Specific Plan Area with the current StaRT stop. Max Route 35 passes the Project area on McHenry Avenue, and a privately funded shuttle could link the Specific Plan Area with a potential stop at the Coffee Road / McHenry Avenue intersection.
- **Increase Transit Frequency.** The Specific Plan could subsidize upgrades to StaRT / MAX service.
- **Provide Transit Passes.** The Specific Plan could subsidize transit passes.
- **Increase Access to Goods and Services**. A private shuttle service could link the Specific Plan Area with key destinations in Riverbank and Modesto.
- **Install Park-and-Ride Lots.** A portion of the parking supply in mixed use areas could be designated for park-and-ride.
- **Increase Pedestrian / Bicycle Connectivity.** Existing and planned off-site bicycle and pedestrian facilities could be upgraded and gaps in existing systems could be eliminated.

MITIGATION MEASURE(S)

Mitigation Measure 3.13-2: *The Project Applicant shall implement the following VMT related mitigation measures / strategies which could reduce the VMT generated by the proposed land uses. These VMT related mitigation measures / strategies shall be noted on the improvement plans.*

- ***Shuttle Bus Service.*** *The proponents shall provide shuttle bus service linking the project with an applicable StaRT stop(s) and with key destinations in Riverbank and Modesto.*
- ***Provide Transit Passes.*** *The project proponents shall provide off project residents and employees subsidized transit passes.*
- ***Install Park-and-Ride Lots.*** *A portion of the parking supply in mixed use areas shall be designated for park-and-ride use.*
- ***Increase Pedestrian / Bicycle Connectivity****. Install off site pedestrian facilities to promote this mode and reduce VMT.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Though not all individual VMT reduction measures may be applicable, Mitigation Measure 3.13-2 is considered generally feasible because it is within the applicant's purview to implement and has been found to be effective in peer-reviewed academic studies. However, the precise effectiveness of a given VMT reduction strategy is difficult to accurately measure. Because there is no assurance

that Mitigation Measure 3.13-2 would fully mitigate these VMT impacts, these impacts are considered to be ***significant and unavoidable***.

Impact 3.13-3: Implementation of the Specific Plan would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). (Significant and Unavoidable)

As indicated in the traffic operations analysis presented in Appendix G, there are two locations where development would result in significant safety impacts on State facilities.

At the McHenry Avenue / Ladd Road / Patterson Road intersection, the Specific Plan would cause the queue of peak hour traffic to exceed the available storage length in the southbound left turn lane and in the eastbound left turn lane. This is a ***potentially significant*** safety impact.

To reduce the length of these queues, it will be necessary to increase intersection capacity by:

- Eastbound approach: lengthen eastbound left turn lane to 300 feet;
- Southbound approach: add a 2nd southbound left turn lane;
- On Patterson Road, add a second eastbound lane from McHenry Avenue easterly to a point 300 feet of the SR 108 connection.

This work would occur within the limits of Patterson Road improvements addressed by the City of Riverbank's traffic impact fee program; however, the fee program improvements are generically identified as SR 108 widening and this specific improvement is not included.

The proposed Specific Plan will add traffic on Patterson Road (SR 108) / Skittone Road intersection where no left turn lane exists, thus increasing the possibility of rear end collisions between through traffic on SR 108 and turning vehicles. This is a ***potentially significant*** safety impact.

A westbound left turn lane should be installed on SR 108 at Skittone Road. This work would be within the area of SR 108 widening addressed by the City of Riverbank's traffic impact fee program.

MITIGATION MEASURE(S)

Mitigation Measure 3.13-3: *Prior to approval of a Final Map or improvement plans, the Project Applicant shall contribute its pro rata fair share to the cost of improvement to the McHenry Avenue / Ladd Road / Patterson Road intersection.*

Mitigation Measure 3.13-4: *The Project Applicant shall construct a westbound left turn lane on SR 108 at the Skittone Road intersection. This roadway design shall be noted on the improvement plans.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measure 3.13-3 requires the applicant to contribute its pro rata fair share to the cost of improvement to the McHenry Avenue / Ladd Road / Patterson Road

intersection. While this improvement would eliminate the identified safety impact, there is no guarantee that funding would be available for the balance of construction cost. In addition, these improvements would be subject to the design requirements and approval of Caltrans, and there is no guarantee than Caltrans will permit their construction. Because the City of Riverbank cannot ensure installation, Impact 3.13-3 may not be fully mitigated, and this impact is considered to be ***significant and unavoidable***.

Implementation of Mitigation Measure 3.13-4 requires the applicant to construct a westbound left turn lane on SR 108 at the Skittone Road intersection. While this improvement would fully mitigate the identified safety impact, this improvement would be subject to the design requirements and approval of Caltrans, and there is no guarantee that Caltrans will permit its construction. Because the City of Riverbank cannot ensure installation, Impact 3.13-3 may not be fully mitigated, and this impact is considered to be ***significant and unavoidable***.

Impact 3.13-4: Implementation of the Specific Plan would not result in inadequate emergency access. (Less than Significant)

Emergency response requires a balance of emergency response time and evacuation needs with other community concerns, such as urban design and traffic calming. Future roadway improvements associated with buildout of the Specific Plan Area would be made in accordance with the City's Circulation Plan and roadway functional design guidelines.

The Specific Plan is designed to ensure that adequate emergency access is provided by providing three major points of ingress/egress to the development. The Specific Plan has a roadway network that is designed consistent with the City's General Plan, and it includes street sections that provide function and structure for the development. Each individual phase and/or site that is developed within the Specific Plan Area would be reviewed by the City to ensure that it is designed with adequate emergency access. Overall, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

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This section describes the regulatory setting, impacts associated with wastewater services, water services, storm drainage, and solid waste disposal that are likely to result from Specific Plan implementation, and measures to reduce potential impacts to wastewater, water supplies, storm drainage, and solid waste facilities. This section is based in part on the following documents, reports and studies: *California's Groundwater,* CalRecycle *Solid Waste Information System,* CalRecycle *Jurisdiction Diversion/Disposal Rate Summary*, *City of Riverbank Municipal Service Review & Sphere of Influence Update* (City of Riverbank, 2016), the *Integrated Regional Groundwater Management Plan for the Modesto Subbasin* (2005), *2015 Urban Water Management Plan* (2016), *Water Supply Study and Water Master Plan* (2007), *Storm Drain System Master Plan* (2008), and *Sewer Collection System Master Plan* (2007), *City of Riverbank Recycled Water Production Study* (KSN 2022), *City of Riverbank Recycled Water Use Study* (KSN 2022), *City of Riverbank Regional Recycled Water Project Preliminary Design Report* (KSN 2022), and *Water Supply Assessment – River Walk Specific Plan* (West Yost, 2022).

Comments were received during the public review period for the Notice of Preparation from the Central Valley Flood Protection Board (June 14, 2021), City of Modesto (July 2, 2021), Stanislaus Local Agency Formation Commission (June 29, 2021), Dennis Jackman (June 28, 2021), Jeani Ferrari (July 4, 2021), Evelyn Halbert (July 5, 2021), Richard Meissner (July 4, 2021), Bernard and Jami Aggers (July 5, 2021), Central Valley Regional Water Quality Control Board (July 6, 2021), and Central Valley Concerned Citizens (July 6, 2021). Full comments received are in Appendix A.

3.14.1 WASTEWATER SERVICES

ENVIRONMENTAL SETTING

Existing Wastewater Treatment Plant (WWTP) Facilities

The City's existing WWTP lies just north of the City limits, and across the Stanislaus River in San Joaquin County. The WWTP consists of a headworks system, aerated treatment ponds, polishing ponds, evaporation/percolation ponds, groundwater monitoring wells, and associated piping and mechanical components. Flow is gravity fed through the system and controlled with system valving/piping.

A trestle over the Stanislaus River connects the City's sewer system to the WWTP. The collection system consists of gravity pipe and sewer pump stations. The current average wastewater flow into the facility is approximately 1.6 mgd. The headworks of the facility includes two parallel influent channels. One of the channels is equipped with a grinder, mechanical screen, screenings compactor, and Parshall flume with bubbler tube for flow metering, and the second channel is equipped with a manual bar rack used as a bypass of the grinder and screen. The bypass channel is used during peak influent conditions such as high rainfall events, when instantaneous inflow can exceed the Parshall flume's ability to reliably measure flows above 7 mgd. Because of the uncertainty of measurement in peak flows, it is anticipated that current peak wet weather flows may reach as high as 10 mgd. A composite autosampler is used to sample WWTP influent for water quality monitoring. From the headworks, wastewater is directed to ponds T-1 and T-2 for treatment. These ponds operate in

series as completely mixed aerated treatment ponds using the Biolac aeration system, which consists of four blowers, and numerous fine-bubble diffusers (tube assemblies) attached to moving chains that facilitate mixing and aeration of the wastewater. Each pond has a synthetic lining and was designed for a hydraulic retention time of 7.72 days (15.4 days total). Effluent from the aerated ponds flows to the polishing ponds, and then is disposed of by percolation and evaporation. Percolation through the pond bottom makes up the majority of treated wastewater disposal, while some evaporation into the atmosphere occurs in the summer months.

The existing WWTP is near capacity. The Regional Water Quality Control Board (RWQCB) has let the City know that future permits will require the WWTP be upgraded from a secondary treatment to a tertiary treatment facility. In addition, future development will require that the plant be expanded. The City is developing approaches to increase the WWTP capacity. The future upgrade to tertiary treatment and capacity expansion are discussed further below.

Waste Discharge Requirements (WDRs) Order No. 94-100

The maximum permitted treatment capacity in Riverbank as prescribed under Waste Discharge Requirements (WDRs) Order No. 94-100 and the associated monitoring and reporting program, which was adopted by the Central Valley RWQCB, on April 22, 1994, is 7.9 mgd. While the permitted capacity is 7.9 mgd, the actual capacity at the WWTP is closer to approximately 1.6 mgd, and the plant is nearing capacity. A summary of applicable WDRs in Order No. 94-100 is provided below. As defined in the WDRs, the WWTP is prohibited from the following actions:

- discharge of wastes to surface waters or surface water drainage courses;
- bypass or overflow of untreated or partially treated waste; and
- discharge of waste classified as “hazardous” or “designated,” as defined in Title 22, Chapter 15, Section 2521(a) and 2522(a) of the CCR.

The following additional discharge specifications are listed in the WDRs:

- The monthly average dry weather discharge flow shall not exceed 7.9 mgd.
- Objectionable odors originating at the facility shall not be perceivable beyond the limits of the property.
- Dissolved oxygen content in the upper 1 foot of wastewater in ponds shall not be less than 1.0 mg/L.
- Treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout related to floods with a 100-year return frequency.
- Ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation (based on a 100-year return period) and ancillary inflow and infiltration during the nonirrigation season.

The WDRs specify freeboard requirements for the treatment and disposal ponds (i.e., vertical distance between the maximum normal water elevation in the pond and the top of the berm); however, since the adoption date of the WDRs, ponds have been renamed and their functions have been modified. The same freeboard requirements apply to each location despite changes in name or function.

The groundwater limitations contained in the WDRs state that discharge from the WWTP shall not cause underlying groundwater to:

- be degraded;
- contain chemicals, heavy metals, or trace elements in concentrations that adversely affect beneficial uses or exceed maximum contaminant levels specified in 22 CCR, Division 4, Chapter 15;
- exceed a most probable number (MPN) of total coliform organisms of 2.2/100 milliliters (mL) over any 7-day period;
- exceed concentrations of radionuclides specified in 22 CCR, Division 4, Chapter 15;
- contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses; or
- contain concentrations of chemical constituents in amounts that adversely affect agricultural use. The following applicable sludge disposal requirements are specified in the WDRs:
- Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner that is consistent with Chapter 15, Division 3, Title 23, of the CCR and approved by the executive officer.
- Use and disposal of sewage shall comply with existing federal and state laws and regulations, including permitting requirements and technical standards included in 40 Code of Federal Regulations 503.

The WWTP is in compliance with the WDRs, with the following exceptions:

- Nitrate and ammonia concentrations in groundwater sampled from several interior monitoring wells dominated by effluent exceed recommended groundwater limitations.
- Dissolved oxygen in ponds T-1 and T-2 periodically fall below the 1.0 mg/L limit.

Existing Flows and Loads

The WWTP serves the approximately 2,485-acre City of Riverbank, the population of which in 2021 was approximately 25,243 people (KSN 2022). Influent to the WWTP includes flows from industrial discharges and domestic wastewater sources. Domestic wastewater sources include residential,

institutional, public facility, and commercial sources. Unit wastewater generation rates in the city range from 55 gallons per capita per day (gpcd) to 63 gpcd. (KSN 2022). Influent wastewater flows (flows into the plant) from the city are affected by seasonal events. During the wet season, infiltration and inflow (I/I) (e.g., rainfall and groundwater seeping through cracks into sewer pipes or through other utility access points) increase influent to the plant; during dry-period flows, occurring predominantly in July, August, and September, flows are lower. Recent annual average flows have ranged from 1.49 million mgd to 1.61 mgd (KSN 2022). Seasonal increases in wastewater flows resulting from I/I typically occur in the months of December through March, but with occasional increases in influent flows occurring as late as May. Seasonal peak flows typically occur during very heavy rain periods, resulting in peak influent flows of up to 4.0 mgd. Annual average influent concentrations of biological oxygen demand (BOD) and total suspended solids (TSS), which range from 236 milligrams per liter (mg/L) to 428 mg/L and from 144 mg/L to 340 mg/L, respectively, are generally consistent with wastewater strength associated with a mixture of primarily residential flows with some commercial and industrial contribution (KSN 2022).

Future Flows

Future growth in the city is managed under the policies of the City's General Plan and under adopted zoning. Future city wastewater flows and loads to the WWTP are expected to increase as a result of infill development and new development within the City's general plan/sphere of influence. No new significant industrial discharges are known to be planned. The City's latest projections (KSN 2022) reflect future flows and loads to the City's WWTP based on future population growth projected to 2050 rather than at buildout of the city, which is expected to occur well beyond the proposed 30-year planning horizon. In 2050, the city's population is estimated to reach approximately 36,766 (KSN 2022). Based on this population projection, wastewater flows in 2050 are projected to be required at up to 2.29 mgd. As California Building Codes continue to upgrade water consumption standards, and as new homes become more efficient, the planned expansion of the WTTP to 2.29 mgd may be able to serve additional units, above the initial design assumptions.

Potential WWTP Upgrades

As discussed previously, the City has two future needs at the WWTP. One is to convert (upgrade) the WWTP from a secondary to a tertiary facility. Second, and as part of that conversion, the City intends to increase (expand) the WWTP capacity. Historically, the City has been able to increase capacity at the WWTP by adding aerators, refurbishing ponds, and making other minor adjustments, equipment or operational, at the WWTP. Some of these options might still be available, but they are not long-term solutions, and would result in modest capacity increases.

To consider and evaluate the future upgrades at the WWTP, the City prepared the Recycled Water Production Study (KSN: January 2022), and the Preliminary Design Report (KSN: December 2022), and the City Council authorized the City staff and consultants to proceed with the project by City Council action on December 13, 2022. A Negative Declaration (ND) was adopted for the project at the same meeting. Financing is not yet in place to construct the project. Financing may become available in the future through a mix of sources, including but not limited to AB1600 fees, grants, and cooperation with private developers.

Long-term improvements to the Riverbank WWTP to upgrade the level of treatment and expand treatment capacity to accommodate growth projected to occur in the future have been preliminarily analyzed and include headworks facility upgrades to provide reliable grinding and screening capacity; upgrades to the wastewater treatment process to provide oxidation, biological nutrient removal, filtration, and disinfection; and construction of other buildings and structures to support operation of the WWTP. Conveyance of flows through the secondary process would continue to be gravity fed, similar to existing facilities, with treated water supplied to the tertiary facilities via pumping. These modifications are anticipated to result in both the upgrade and expansion of the plant.

The proposed WWTP upgrades are modular in design and laid out in a fashion to accommodate expansion in the future beyond the 2050 planning horizon. However, the proposed facilities are not sized beyond the capacity needed to treat the projected 2.29-mgd flow.

PRIMARY TREATMENT AND FLOW EQUALIZATION

Because the existing headworks facility has additional capacity in its bypass channel and provides the desired level of primary treatment under average flow conditions, a full overhaul of this facility would not be required. Instead, an upgrade to existing equipment and addition of new grinding and screening equipment in the bypass channel are proposed. These upgrades would provide redundancy to allow for one channel to be taken offline during low-flow periods for maintenance, as well as provide increased grinding/screening capacity for peak influent flows. One existing lined pond would be converted from a treatment pond to an emergency storage pond for emergency and flow equalization storage, and one existing lined pond would be converted to serve as an overflow basin into which high flows could be diverted for temporary storage and then later pumped back to the storage pond and returned to the influent channel or through a secondary treatment facilities splitter box.

SECONDARY TREATMENT FACILITIES

Following screening, the WWTP influent would receive secondary treatment before percolation or further treatment for reuse. To meet secondary treatment requirements, removal of total BOD and TSS is required. The existing treatment ponds system is not able to remove TSS and cannot provide adequate aeration for the projected increase in flows and loadings to meet anticipated water quality requirements. In addition, the treatment pond system cannot consistently control nitrogen at the level expected to meet requirements of the Salt and Nitrate Control Program Basin Plan Amendments. Therefore, improvements to the secondary treatment facilities would include solids separation and additional aeration capacity and biological nutrient removal. To achieve this, the existing treatment pond system would be demolished and replaced with an oxidation ditch that would include at least two trains, each with anoxic submersible mixers to provide mixing in the anoxic zones, and aerators to provide oxygen for BOD removal and ammonia conversion. Two secondary clarifiers would also be added to separate and return solids to the oxidation ditch. This design would provide redundancy for worst-case conditions (maximum month loading, cold temperature, and peak flows). The system could also be operated with either one secondary clarifier or the oxidation ditch out of service.

TERTIARY TREATMENT AND DISINFECTION FACILITIES

To meet the requirements of disinfected tertiary recycled water for unrestricted reuse, the secondary effluent would be tertiary treated and then disinfected. The proposed facilities would be sized to treat 2.29 mgd ADWF (1,600 gpm), the WWTP's permitted average dry weather flow, which, in concert with continued use of the existing disposal ponds, is expected to be adequate to serve city growth for the foreseeable future.

The tertiary treatment and disinfection process would include pretreatment by coagulation/flocculation followed by granular media filtration (GMF) and then ultraviolet light (UV) disinfection. Because of the potential for growth of algae in the seasonal storage ponds, a secondary effluent pretreatment system consisting of dissolved air flotation (DAF) units may be installed and used before tertiary treatment when effluent from seasonal storage is being treated. The following discussion provides further information on the proposed tertiary treatment and disinfection process and facilities.

DAF RAPID TREATMENT SYSTEM

Fouling of granular media caused by algal solids formed when algae is mixed with coagulant is a common issue encountered when storage pond water is treated through GMF. Although secondary effluent from the oxidation ditch would be the primary source of effluent to be treated to tertiary levels, as influent flows increase, some secondary effluent stored in ponds could be returned to the tertiary treatment system to supplement the supply of recycled water. To reduce or control the amount of GMF solids loading caused by the formation of algal solids, two DAF units capable of handling 1,600 gpm may be installed upstream of the tertiary treatment facilities. Motorized valves would be used to either deliver secondary effluent directly to the tertiary process or direct it through the DAF units before tertiary treatment. (Bypassing of the DAF units would occur when seasonal storage pond effluent is not being returned to the tertiary treatment system.) Coagulant injection to the DAF units would be fed from pumps in the chemical feed system installed in the tertiary facility. Solids produced by the DAF units would be pumped to the waste activated sludge storage basin.

PRETREATMENT SYSTEM – GMF

A rapid mix and flocculation system would be installed upstream of the filters to enhance filtration performance. Secondary effluent would be pumped to a rapid mix basin. A chemical feed system would be used to inject coagulant (e.g., alum or PACl [polyaluminum chlorohydrate]) into the rapid mix tank where flow would be flash-mixed to begin the coagulation process. Flow would leave the rapid mix basin and enter the flocculation tank. Each flocculation tank would provide a minimum of 15 minutes of hydraulic retention time at 1,600 gpm to achieve proper coagulation and flocculation. Because of the size of the flocculation basins and the simplicity of their mechanical parts and because it is anticipated that flocculation would be required only intermittently, redundant flocculation tanks are not proposed at the buildout condition. Each tank would have a dedicated mixer. Flow would discharge from each individual flocculation tank into a common header that could distribute flow to the filters.

The chemical addition system would consist of one 12,500-gallon (gal) coagulant storage tank and four pumps (two duty, two standby) to convey chemicals to the rapid mix and flocculation basins and the DAF units separately. A bypass around the rapid mix and flocculation system would be provided to allow water to be sent directly to the filters when water quality (turbidity) does not require pretreatment before filtration.

FILTRATION

Following pretreatment, particulate matter would be filtered from the secondary effluent using a GMF system. The filtration system would produce filtered effluent with a turbidity that does not exceed any of the following standards in compliance with Title 22 regulations for tertiary recycled water:

- an average turbidity of 2 NTUs within a 24-hour period,
- 5 NTUs, more than 5 percent of the time within a 24-hour period (e.g., 72 minutes within a 24-hour period), or
- 10 NTUs at any time (diversion of wastewater is required if turbidity exceeds 10 NTUs).

The GMF system would consist of four deep-bed anthracite/sand filters (three duty, one standby) with a capacity of 1,600 gpm and backwashing equipment constructed downstream of the mixing and flocculation system.

During filtration, secondary effluent would be pumped to the top of the filter basins containing sand and support gravel. Solids would be captured on the sand as it flows through the filter bed, and then the filtered water would be collected from each filter and conveyed to the disinfection system for further treatment.

A backwash cycle would be installed and initiated to periodically clean the filters using the tertiary treated effluent when solids accumulation on the media increases head loss across the filter to a threshold value. The backwash facilities would recycle filter backwash water to the headworks.

Turbidity meters would also be installed after the filtration process and before disinfection. The turbidity meters would continuously log data and be capable of retaining data history.

DISINFECTION SYSTEM

Following tertiary treatment, the effluent would be disinfected using a UV disinfection system. The UV system would include low-pressure high-output lamps with automatic sleeve cleaning. Filter unit effluent would be routed through a connecting pipe and into a common UV influent channel. Water levels in the UV open-channel system would be controlled using a level control structure, which keeps the UV equipment continually submerged. Flows from the UV channels would be conveyed to a common effluent channel/pipeline and on to storage and distribution.

A programmable logic controller would adjust the UV dose based on a validated UV dose equation to maintain UV dose delivery at or above the required reduction equivalent dose set point without

overdosing through "dose pacing." An ultraviolet transmittance meter would be installed postfiltration, and a flowmeter would be included to allow UV dose pacing.

A davit crane or roof crane would be used to allow removal of UV banks from service in the open-channel system. Walkways with a minimum width of 3 feet would be provided on both sides and between the UV channels to facilitate maintenance.

HYPOCHLORITE CHEMICAL ADDITION SYSTEM

Before the tertiary treated disinfected effluent is stored in the proposed on-site recycled water storage tank described below, facilities would be provided to allow injection of sodium hypochlorite into the recycled water to provide a chlorine residual sufficient to prevent any biological growth in the recycled water storage tank. The chemical addition system would likely consist of one 5,000-gal sodium hypochlorite storage tank and one pump to inject chemicals into the tertiary treated and disinfected effluent.

BACKUP POWER

To ensure continued operation of the secondary treatment system during power outages, two approximately 450- kilowatt (kW) diesel backup generators would be installed; each generator would handle one of the two secondary treatment trains (Whittlesey, pers. comm., 2022). A third 450-kW diesel backup generator could also be installed to power auxiliary operations and the tertiary treatment system during power outages (Whittlesey, pers. comm., 2022). The installation of these generators may be integrated such that any one of the three generators could provide power to the secondary, tertiary, or auxiliary systems as deemed necessary by the WWTP staff at the time. To recharge the battery, burn off excess moisture, and help to keep the system lubricated, the backup generators would be test-run monthly for at least 30 minutes.

OTHER BUILDINGS AND STRUCTURES

To support operation of the WWTP, a new, approximately 1,000-square-foot air-conditioned electrical building and approximately 5,000-square-foot air-conditioned shop maintenance building would also be constructed near the entrance to the WWTP (Whittlesey, pers. comm., 2022).

Other improvements to support operation of the treatment facilities would include:

- upgrades to the MID and/or Pacific Gas and Electric Company electrical services to the site;
- site paving, grading, and drainage to provide for access to the facilities and contain site drainage to be discharged to the site disposal ponds;
- radio communications equipment to provide for integration of the WWTP systems with the City's Supervisory Control and Data Acquisition (SCADA) system, including communication and control to the remote recycled water turnouts;
- facilities for the storage, treatment, and dewatering of process biosolids; and

- incidental fencing, gate replacement/improvement, and access road repaving to support new facilities

All the WWTP upgrades discussed above, and the construction of the facility to treat up to 2.29 mgd, have been initially analyzed, presented to the City Council, and in late 2022, the City Council adopted a Negative Declaration (ND) that addressed the environmental impacts associated with such an upgrade/expansion. While these initial steps have been completed, additional work is required before the improvements discussed above can be constructed, including the preparation of design drawings, the acquisition of adequate financing, and siting and feasibility studies. The new WWTP upgrades/expansion are expensive and will require a mix of funding sources, including rates, AB1600 fees, grants, and developer contributions.

Potential Recycled Water Storage and Distribution Upgrades

The City is currently evaluating recycled water storage and distribution facilities improvements. This project is currently in initial planning stages and will need to be funded with a combination of rates, grants, AB1600 fees and developer contributions. Should this project move forward, it would include construction of a recycled water distribution pump station, reconfiguration of existing percolation ponds to provide seasonal storage, installation of two recycled water storage tanks to provide operational storage, and construction of distribution pipelines and turnouts to serve nearby agricultural fields. Operational storage of recycled water is required for direct delivery to landowners in the use area to meet variability of recycled water demands and provide for controlled delivery of recycled water for internal plant use and off-site agricultural use under variable recycled water demands. Operational storage also provides for a source of water for GMF backwash.

Seasonal storage, through modification of some ponds would be integrated into the ongoing percolation disposal operation and would augment availability of secondary effluent for tertiary treatment during peak irrigation months, normally June, July, and August.

SEASONAL STORAGE PONDS

Wastewater flows into the WWTP year-round, and recycled water demands are highest during the summer months. During periods of low recycled water demand, the City proposes to divert treated effluent before the tertiary treatment process and store and/or dispose of the secondary treated effluent on-site at the WWTP.

Based on projected wastewater flows of 2.29 mgd, water balance calculations assuming a 1-in-100-year precipitation event, average evaporation rates, and continued use of most of the City's percolation ponds, the estimated amount of on-site seasonal storage that would be required is approximately 155 million gallons (mgal) (KSN 2022b). The upgrade project includes modifying some ponds to provide seasonal storage for up to an estimated 85 mgal of secondary effluent that would be either discharged to the on-site percolation disposal ponds or pumped to the tertiary treatment system to supplement the production of recycled water during summer months.

RECYCLED WATER STORAGE TANKS

One belowground prestressed concrete 900,000-gal storage tank would be installed on the WWTP site to store recycled water needed to meet irrigation demands. Piping connecting the UV reactors and hypochlorite injection system to the recycled water storage tank would convey tertiary effluent to the tank.

RECYCLED WATER DISTRIBUTION PUMP STATION

The recycled water distribution pump station would have three approximately 75-hp pumps (two duty, one standby) with room to add one additional pump in the future. The pumps would have a combined delivery rate of approximately 2,900 gpm and would operate an average of 12 hours per day. Within the same pump station area, there would be two other pump systems to serve the plant water system.

Two pumps (one duty, one standby) would provide backwash water at a rate potentially up to 3,200 gpm to the GMF and are expected to operate only 2 hours per day when recycled water is being produced. The other set of two pumps (one duty, one standby) would provide approximately 765 gpm of plant water to the treatment system for various uses, such as washdown, spray systems, and scum control. The plant water pumps would operate up to approximately 6 hours per day.

RECYCLED WATER DISTRIBUTION PIPELINES AND TURNOUTS

Recycled water from the WWTP would be pumped to individual landowners in the use area through approximately 5,400–6,300 linear feet of newly constructed pipelines (expected to range in size from 12 inches to 18 inches in diameter) that would deliver pressurized irrigation water to the agricultural users. The point of connection to the recycled water user's site would be an aboveground turnout either on the City's property or on the agricultural properties. The turnouts would include valves, a flow meter, pressure instruments, a control panel, and radio communication facilities to communicate with the WWTP SCADA system. Recycled water users would connect their existing irrigation systems to the recycled water distribution system at the turnout. The pipelines would provide pressurized filtered water to the designated points-of-connection within the end user's existing irrigation system.

Construction Schedule for WWTP and Recycled Water Storage and Distribution Upgrades

There is currently no construction schedule for the WWTP and Recycled Water Storage and Distribution Upgrades project. The City will continue to design the project with the goal of procuring funding to construct both the WWTP upgrades and Recycled Water Storage and Distribution Upgrade project.

Wastewater Conveyance/Collection

The City's Public Works Department repairs and maintains the sewer collection system, including sewer mains, lift stations, and the WWTP. The collection system consists of 6-inch to 36-inch

diameter collection piping and nine lift/pump stations. All wastewater is conveyed from the collection system to the WWTP through a 27-inch gravity line located on a trestle over the Stanislaus River. Wastewater is then treated in aerated lagoons and disposed in infiltration basins.

PUMP STATIONS

As shown in Table 3.14-1, the City maintains nine pump stations located throughout the City. The closest pump station to the Project Area is the Silverock pump station. This station has two pumps with 500 gallon per minute (gpm) capacities, for a combined capacity of 1,000 gpm.

TABLE 3.14-1: SUMMARY OF WASTEWATER PUMP STATIONS

STATION	*LOCATION*	*# OF PUMPS*	*CAPACITY, EACH (GPM)*	*HORSEPOWER, EACH (HP)*
Candlewood	Candlewood at Arrowwood	2	500	10
Estelle	Colony Manor at Estelle	2	850	4.7
Jackson	Jackson at Ward	2	700	5
Talbot	Roselle at Talbot	2 1 1	619 1,180.9 840	4.7 12 10
Terminal	Terminal at Virginia	2	250	2
Townsend	Terminal at Eighth	2	250	2.7
River Cove	River Cove Drive	2	481	15
Crawford	Crawford at Roselle	2 1	1,544 3,171	28 33.5
Silverock	Silverock at Oakdale	2	500	8.5

SOURCE: 2007 SEWER COLLECTION SYSTEM MASTER PLAN, TABLE 3-1.

WASTEWATER COLLECTION SYSTEM IN PROJECT AREA

There is currently limited wastewater infrastructure located within the interior portions of the Project Area. The Project Area is currently under a series of private septic systems. Wastewater conveyance infrastructure will need to be extended throughout these currently unserved areas. Additionally, any septic systems will need to be removed under permit.

Wastewater Conveyance/Collection Upgrades

Sanitary sewer will be provided to the Project Area through the installation of force mains, pump stations, and a network of gravity flow sewer mains. Figure 2.0-15 illustrates the preliminary sanitary sewer plan. It is noted that the final location of force mains, pump stations, and sewer mains is subject to change.

The sanitary sewer system calls for three pump stations (Northeast Pump Station, South Pump Station, and West Pump Station). Additionally, there is an alternative location for the South Pump Station.

The gravity flow system is made up of 24”, 18”, 15”, 12”, 10”, and 8” sewer mains located predominately in the arterial and collector roadways. The system will also have a network of 8” sewer mains within the residential villages ultimately connecting to each home. Gravity sewer mains

will convey all collected wastewater from the Project Area to one of the three pump stations, which will in turn ultimately discharge all flows to the Northeast Pump Station.

The ultimate strategy for the Specific Plan requires force mains to cross under the Stanislaus River from the Northeast Pump Station and travel approximately 1.4 miles to the Wastewater Treatment Plant, following the approximate alignment of an existing farm road. The river crossing involves installing a 10" force main to serve the Specific Plan, and a 16" force main that can be used for future development in the City of Riverbank Sewer Sheds 2 and 3, which are located south of Patterson Road. Any extension of the 16" sewer line would be done at a future time by others. The 1.4-mile extension of the sewer line is an offsite improvement that is included in the analysis of the EIR for the Specific Plan. The line would cross APN 247-25-21 (Roberson Ranch Development LLC), APN 247-25-22, 247-25-4, and 247-26-2 (City of Riverbank). The location of the sewer line was evaluated to ensure it was setback from the Stanislaus River and any riparian habitat associated with the river.

Sanitary sewer from a portion of the Project Area may also be conveyed to the existing City sanitary sewer collection system. This would be implemented as an interim measure until the proposed force main is constructed under the Stanislaus River, and extended to the wastewater treatment plant. The interim connection to the City sewer system would consist of a pump station constructed near the south end of the Project Area, with a force main to convey wastewater to the existing City sewer collection system. Potential alternative interim points of connection to the City sanitary sewer collection system include:

1. Existing pipeline near the intersection of Hot Springs Lane and Patterson Road.
2. Existing pipeline terminus in Patterson Road, approximately 450 ft. west of the intersection with Oakdale Road.
3. Terminus of Cipponeri Road, approximately 450 ft. south of the intersection with Candlewood Place.

The quantity of development units to utilize this interim connection to the existing City system will be determined based on available capacity within the existing system, intended pace of development, and construction cost. These interim connections would flow through the Topeka (Jackson to SR 108) area that is currently at/near capacity as it is only a 12" main. This was proposed to be replaced in the 2001 Master Plan but has not been completed. The City and developers will need to determine if there is the ability to accept additional flows on this line prior to authorization of any use. Detailed studies will be performed to verify sufficient capacity exists in the existing downstream system, as well as to identify any improvements to accommodate additional flows, if necessary. The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed sanitary sewer system upon installation of the improvements.

REGULATORY SETTING

Clean Water Act (CWA) / National Pollutant Discharge Elimination System (NPDES) Permits

The CWA is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. Section 402 of the Act creates the NPDES regulatory program, which makes it illegal to discharge pollutants from a point source to the waters of the United States without a permit. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

Permit requirements for treatment are expressed as end-of-pipe conditions. This set of numbers reflects levels of three key parameters: (1) biochemical oxygen demand (BOD), (2) total suspended solids (TSS), and (3) pH acid/base balance. These levels can be achieved by well-operated sewage plants employing "secondary" treatment. Primary treatment involves screening and settling, while secondary treatment uses biological treatment in the form of "activated sludge."

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Although not regulated under NPDES, "indirect" discharges are covered by another CWA program called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering surface water. The City of Riverbank's WWTP does not currently have surface water discharge.

City of Riverbank General Plan

GOAL: LAND USE

- LAND-5. Full Range of Public Services and Facilities for All Area of the Community.

POLICIES: LAND USE

- LAND-5.1. The City will maintain public services and facilities in the existing developed City and make improvements as necessary to maintain a consistent Citywide level of service.
- LAND-5.2. Infill development will be given priority to remaining capacity for water supply and delivery, wastewater treatment and conveyance, stormwater collection and

conveyance, and other services and infrastructure currently in place. Development impact fees shall reflect the existing capacity to serve infill development areas. Any urban development of new growth areas shall plan and finance necessary infrastructure and service expansion to serve those areas.

- LAND-5.5. Approved projects, plans, and subdivisions in new growth areas will set aside adequate land for, and shall otherwise accommodate public infrastructure and service needs consistent with General Plan policy.

GOAL: PUBLIC SERVICES AND FACILITIES

- PUBLIC-3. Full Range of Public Services and Facilities for All Area of the Community.

POLICIES: LAND USE

- PUBLIC-3.1. The City will require that wastewater collection, conveyance, and treatment facilities meet or exceed local, State, and federal standards, as addressed in the City's Sewer Collection System Master Plan.
- PUBLIC-3.2. The City will identify and utilize, as feasible, best environmental practices and technologies for wastewater collection, conveyance, and treatment.
- PUBLIC-3.3. The City will not induce urban growth by providing wastewater facilities to areas outside the Planning Area or areas not planned for urban development, such as areas designated for agriculture or open space.

City of Riverbank Municipal Code

Chapter 51, Sewers, of the Riverbank Municipal Code outlines the general provisions for sewer service in the City, sets forth requirements for industrial wastewater users, and summarizes regulations which aid in the prevention of sanitary sewer blockages and obstructions from contributions and accumulation of fats, oils and greases into the sanitary sewer system from industrial or commercial establishments, particularly food preparation and serving facilities. Section 51.03, Rates and Charges, of the Code requires developers of property to pay a sewer facility development fee.

Utility Master Plans

The City of Riverbank maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *2015 Urban Water Management Plan* (2016), *Water Supply Study and Water Master Plan* (2007), *Storm Drain System Master Plan* (2008), and *Sewer Collection System Master Plan* (2007).

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with Utilities if it will:

- Require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects; and/or
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the projects projected demand in addition to the providers existing commitments.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-1: The proposed Project has the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Significant and Unavoidable)

Land outside of the Specific Plan Area, but within the SOI boundary expansion, would not be converted to urban uses under the proposed Project. As such, this area would continue to operate as agricultural and rural residential uses utilizing existing private septic systems. At some future time, unrelated to the proposed Specific Plan, property owners in the Reserve Area may decide to move forward with a long-range planning effort (i.e., Specific Plan). At that future time, the property owners would be required to define the uses that they propose to develop, and that would allow for calculations of wastewater demand for that defined project. Until such time that land uses are defined in that area, it is not possible to calculate wastewater demand.

Additionally, until a design/layout for that area is prepared, it is not possible to know what collection facilities would be necessary, and where those facilities would be located. It is noted, however, that the Specific Plan's wastewater collection system has been designed to accommodate a connection from the SOI expansion area. Capacity at the WWTP will have to be verified for the SOI expansion area at such time that wastewater treatment would be needed for a specific development plan. That determination will be a function of the land uses design, and density for the SOI expansion area which is not known at this time.

The wastewater collection and conveyance system that will serve the proposed Specific Plan will consist of engineered infrastructure consistent with the City's existing infrastructure requirements. Sizing of existing infrastructure in the City varies based on location, but generally includes gravity sewers and force mains ranging in size from 8 to 10 inches, and lift stations. The existing facilities have undergone environmental review and have waste discharge permits from the State.

Sanitary sewer will be provided to the Specific Plan Area through the installation of force mains, pump stations, and a network of gravity flow sewer mains. Figure 2.0-15 illustrates the preliminary sanitary sewer plan. It is noted that the final location of force mains, pump stations, and sewer mains is subject to change.

The sanitary sewer system calls for three pump stations (Northeast Pump Station, South Pump Station, and West Pump Station). Additionally, there is an alternative location for the South Pump Station.

The gravity flow system is made up of 24", 18", 15", 12", 10", and 8" sewer mains located predominately in the arterial and collector roadways. The system will also have a network of 8" sewer mains within the residential villages ultimately connecting to each home. Gravity sewer mains will convey all collected wastewater from the Specific Plan Area to one of the three pump stations, which will in turn ultimately discharge all flows to the Northeast Pump Station.

The ultimate strategy for the Specific Plan requires force mains to cross under the Stanislaus River from the Northeast Pump Station and travel approximately 1.4 miles to the WWTP, following the approximate alignment of an existing farm road. The river crossing involves installing a 10" force main to serve the Specific Plan, and a 16" force main that can be used for future development in the City of Riverbank Sewer Sheds 2 and 3, which are located south of Patterson Road. Any extension of the 16" sewer line would be done at a future time by others. The 1.4-mile extension of the sewer line is an offsite improvement that is included in the analysis of the EIR for the Specific Plan. The line would cross APN 247-25-21 (Roberson Ranch Development LLC), APN 247-25-22, 247-25-4, and 247-26-2 (City of Riverbank). The location of the sewer line was evaluated to ensure it was setback from the Stanislaus River and any riparian habitat associated with the river. The bore under the river will not have any direct impact to the bed, bank, or flow of the Stanislaus River, and it will not have any direct impact to the riparian habitat along the edges of the river. Depending on the depth of the bore, dewatering may be necessary to the bore pit. This would not involve dewatering of the Stanislaus River. Any dewatering would be performed under permit from the Regional Water Quality Control Board.

Sanitary sewer from a portion of the Specific Plan Area may also be conveyed to the existing City sanitary sewer collection system. This would be implemented as an interim measure until the proposed force main is constructed under the Stanislaus River, and extended to the wastewater treatment plant. The interim connection to the City sewer system would consist of a pump station constructed near the south end of the Specific Plan Area, with a force main to convey wastewater to the existing City sewer collection system. Potential alternative interim points of connection to the City sanitary sewer collection system include:

1. Existing pipeline near the intersection of Hot Springs Lane and Patterson Road.
2. Existing pipeline terminus in Patterson Road, approximately 450 ft. west of the intersection with Oakdale Road.
3. Terminus of Cipponeri Road, approximately 450 ft. south of the intersection with Candlewood Place.

The quantity of development units to utilize this interim connection to the existing City conveyance system will be determined based on available capacity within the existing conveyance system, intended pace of development, and construction cost. Detailed engineering studies will be performed to verify sufficient capacity exists in the existing downstream conveyance system, as well as to identify any improvements to the conveyance system to accommodate additional flows, if necessary.

The WWTP would not require upgrades or improvements beyond the upgrades to the WWTP and Recycled Water Storage and Distribution already discussed. While the timing of these

improvements will be tied to the City acquiring adequate funding, these improvements are anticipated to provide at least some of the capacity required to serve the proposed Specific Plan. The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed sanitary sewer system upon installation of the improvements. Impacts associated with the WWTP and Recycled Water Storage and Distribution have been analyzed under a separate CEQA document for those improvements.

The installation of the conveyance system improvements will be within the footprint of the Specific Plan Area, as well as the offsite improvement area. The impacts associated with development in the Specific Plan, including the offsite improvement area, have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a less than significant impact, while in other cases it was determined that development would have a significant and unavoidable impact (i.e., loss of prime farmland). Consistent with the conclusions made throughout this EIR, installation of the wastewater collection and conveyance system infrastructure to serve the proposed Project would have a ***significant and unavoidable*** impact.

Impact 3.14-2: The proposed project does not have the potential to result in a determination by the wastewater treatment and/or collection provider which serves the project that the provider does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. (Less than Significant with Mitigation)

WASTE DISCHARGE REQUIREMENTS (WDRS) BOARD ORDER NUMBER NO. 94-100

The City's of Riverbank's overall sewer conveyance and collection strategy consist of laterals and sewer mains with pump stations located along the collection system to convey wastewater to a 27-inch gravity line which conveys the wastewater to the City's WWTP. The City repairs and maintains the sewer collection system, including sewer mains, lift stations, and the WWTP.

The WDR for the City's WWTP provides a permitted capacity of 7.9 mgd as authorized under Waste Discharge Requirements (WDRs) Board Order Number No. 94-100. The WWTP does not operate at its permitted capacity, instead it is limited to a capacity of approximately 1.6 mgd in dry weather conditions. As previously discussed, the City has planned upgrades at the WWTP that would increase capacity upon the City securing funding to implement those upgrades.

The *City's Sewer Collection System Master Plan* (2007) includes recommended wastewater generation factors for existing and future development land use areas for the City. More recently, the City has established wastewater generation rates for residential units in the *City of Riverbank Regional Recycled Water Project Preliminary Design Report* (KSN 2022). The proposed Project's wastewater generation calculations utilize both sources to establish rates for the calculations. As shown in Table 3.14-2 provides the wastewater generation estimates for the proposed Project.

TABLE 3.14-2: WASTEWATER GENERATION ESTIMATES

LAND USE	*PROPOSED ACREAGE*	*Estimated Units or SF Range*	*WASTEWATER GENERATION RATE*	*WASTEWATER GENERATION (GPD)*
LDR – Low Density Residential	467.18	1550	200 gpd/unit	310,000
MDR – Medium Density Residential	78.7	702	200 gpd/unit	140,400
HDR – High Density Residential	10.02	180	200 gpd/unit	36,000
MU – Mixed-Use (outside of community core)	58.39	0 – 350 du (275,000-635,000 sf)	200 gpd/unit or 1,760 gpd/acre	70,000 (with residential) or 103,000 (with commercial)
MU – Mixed-Use (inside of community core)	5.35	0 – 100 du (110,000-220,000 sf)	200 gpd/unit or 1,760 gpd/acre	20,000 (with residential) or 9,500 (with commercial)
MU – Mixed-Use (Clubhouse)	8.01	20,000 sf	1,760 gpd/acre	14,098
Park	43.34		400 gpd/acre	17,336
B/G/OS - Bluff	68.53		--	--
B/G/OS - Canal	23.34		--	--
B/G/OS - River Park[1]	69.77		--	--
Park - Ponding Basin[1]	41.01		--	--
Reserve	60.17		--	--
ROW	63.37		--	--
			TOTAL	***641,000[2]***

NOTE: [1]THE "MULTI USE RECREATION" GENERATION FACTOR WAS USED FOR THESE LAND USES. [2]THIS TOTAL ASSUMES THE HIGH WASTEWATER GENERATION ESTIMATE FOR BOTH MIXED USE AREAS.

SOURCE: CITY OF RIVERBANK REGIONAL RECYCLED WATER PROJECT PRELIMINARY DESIGN REPORT (KSN 2022), CITY OF RIVERBANK RECYCLED WATER PRODUCTION STUDY (KSN 2022), CITY OF RIVERBANK RECYCLED WATER USE STUDY (KSN 2022), AND SEWER COLLECTION SYSTEM MASTER PLAN (2007), TABLE 4-3.

The proposed Specific Plan's wastewater generation is estimated to be approximately 641,000 (0.641 mgd). The capacity needed to serve the Specific Plan would require the City to implement the WWTP and Recycled Water Storage and Distribution project, or another project, that would increase capacity by at least the 0.69 mgd required for the proposed Project. The additional capacity of 0.69 mgd is projected to be sufficient to serve the proposed Specific Plan's need of 0.641 mgd, provided that it is funded and constructed and that other projects do not also request additional capacity. In the event other projects request some of the available capacity, all of the upgraded capacity will not be fully allocated to the proposed Specific Plan. As discussed previously, other improvement projects, or minor modifications or adjustments at the WWTP might be able to create some additional capacity that is needed. Alternatively, if the WWTP upgrades are in place, additional modular units may be able to be added. As the Specific Plan builds out over its planning horizon, it may be necessary for the City to make further upgrades to the WWTP to add additional capacity to the WWTP, although an exact capacity need for unknown future projects cannot be calculated at this time. Although not expected, if any future changes at the WWTP fall outside of that reviewed

in this EIR, or in the ND for the *City of Riverbank Regional Recycled Water Project Preliminary Design Report* (KSN 2022), additional environmental analysis may be required for those upgrades.

The proposed Specific Plan would require sewer allocation for each phase of development as the phase is constructed through 2040. Allocation of available sewer capacity would be made at the time payment of the appropriate connection fees is made to the City to cover a pro-rata fair share of the capital cost for the sewer capacity. The WWTP upgrades, if built, are anticipated to increase capacity of the plant by 0.69 mgd once funding is secured, of which the proposed Specific Plan will require 0.64 mgd at buildout. The first 5-10 years of construction phases may be adequately served by the WWTP upgrades that add 0.69 mgd; however, it may be necessary for additional WWTP upgrades based on other development that occurs throughout the City. Overall, the Specific Plan's capacity needs may exceed the wastewater discharge requirements from the wastewater treatment provider, which will depend on future project demands and WWTP upgrade implementation. WWTP upgrades are dependent on financing, as well, as design, engineering, and construction schedule that is not yet secure. This is a potentially significant impact, however, mitigation that limits construction to only those units that have secured capacity would ensure that there is not an exceedance of the sewer capacity. With implementation of the following mitigation measure the proposed project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.14-1: *Prior to the issuance of an occupancy certificate, the Project applicant shall secure the appropriate sewer allocation from the City of Riverbank. Securing the sewer allocation shall be on a first come first serve basis and shall be limited to those sewer allotments that are paid via sewer connection fees, and/or other fees that may be charged related to the sewer allocation.*

3.14.2 WATER SUPPLIES

ENVIRONMENTAL SETTING

The Project Area is located within the unincorporated area of Stanislaus County. The City of Riverbank will be the water purveyor for the proposed Project. The proposed Project, if approved by the City, is capable of being served from the proposed on-site wells.

The following information is contained in the *Water Supply Assessment – River Walk Specific Plan* (West Yost Associates, 2022) (see Appendix H). The City's most recently adopted *Urban Water Management Plan* (UWMP) (the City's 2020 UWMP) was adopted by the City Council in October 2021. The City's 2020 UWMP included existing and projected water demands for existing and projected future land uses to be developed within the City's SOI through 2040. The water demand projections in the City's 2020 UWMP included existing City water demands, future water demands for developments within the existing City limit, and future water demands for future service areas outside the existing City limit.

City of Riverbank Water Service

This section presents the City's water service area including history and growth information for the City.

CITY OF RIVERBANK WATER SERVICE AREA

The City is located within the Stanislaus and San Joaquin Basins of the Great Central Valley, adjacent and south of the Stanislaus River. The City is approximately four miles to the southwest of the City of Oakdale and is just northeast of the City of Modesto. The Riverbank water service area is considered semi-arid and is characterized by hot, dry summers and mild, wet winters.

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 the City limits, but within the SOI.

CITY OF RIVERBANK CURRENT AND PROJECTED POPULATION

From 2005 to 2020, the City's population increased by approximately 5,055 residents per the State of California, Department of Finance. Growth rates have been as high as 5.9 percent between 2014-2015 and as low as 0.4 percent between 2019 and 2020. The 2020 UWMP projects an average population growth rate of 1.0 percent based on the historical average growth data from 2010 through 2020. Therefore, the population projection for the year 2040 is 30,549. Table 3.14-3 summarizes the projected population growth of the City to the year 2040.

TABLE 3.14-3: HISTORICAL AND PROJECTED POPULATION FOR CITY OF RIVERBANK

CALENDAR YEAR	*ESTIMATED POPULATION*
2020	25,133
2025	26,390
2030	27,709
2035	29,095
2040	30,549

SOURCE: CITY OF RIVERBANK 2020 UWMP, TABLE 3-1.

City of Riverbank Water Demand

The following topics are covered in this section:

- Existing and projected water demand; and
- Dry year water demand.

EXISTING AND PROJECTED WATER DEMAND

The City's 2020 UWMP describes the projected City water demand through 2040. The City's water demand has fluctuated over time with a peak of 5,187 acre-feet (AF) water use occurring in 2007 followed by a noticeable decrease in annual water use despite a steady population increase within the City's sphere of influence. City staff believes the reduction in water use after 2007 was due to conservation efforts and the effect of the economic downturn, also referred to as the Great Recession, between December 2007 and June 2009. In the future, water demand is expected to increase as approved projects build out and new developments are approved and constructed in the City's water service area. The existing and projected 2040 water demand, assuming normal year conditions, for the City in 5-year increments through 2040, based on the City's 2020 UWMP, is shown in Table 3.14-4.

TABLE 3.14-4: CITY OF RIVERBANK EXISTING AND PROJECTED TOTAL WATER DEMAND IN NORMAL YEARS, AFY

	2020[A]	*2025[B]*	*2030[B]*	*2035[B]*	*2040[B]*	*2045[C]*
Total Water Demand	4,425	4,646	4,867	5,088	5,309	5,530

NOTES: AFY = ACRE-FEET PER YEAR.

[A] BASED ON THE CITY'S 2020 URBAN WATER MANAGEMENT PLAN, TABLE 4-2.

[B] BASED ON THE CITY'S 2020 URBAN WATER MANAGEMENT PLAN, TABLE 4-3.

[C] THE CITY'S 2020 URBAN WATER MANAGEMENT PLAN DID NOT INCLUDE A PROJECTION FOR PROJECTED WATER DEMAND IN 2045. THE VALUE SHOWN HERE IS BASED ON INCREASING DEMANDS BY 221 AF FROM 2040 PROJECTIONS. THIS SAME METHOD OF ADDING 221 AF TO THE PREVIOUS 5-YEAR INCREMENT'S DEMAND PROJECTION IS THE METHOD USED IN THE 2020 UWMP FOR PROJECTING THE WATER DEMAND IN YEARS 2020 THROUGH 2040. THIS PROJECTED WATER DEMAND INCREASE ASSUMES AN APPROXIMATE 4.0 PERCENT GROWTH IN WATER DEMANDS, TO BE CONSISTENT WITH THE 5.9 TO 0.4 PERCENT INCREASE IN HISTORICAL AVERAGE POPULATION GROWTH FROM 2015 THROUGH 2020, ACCORDING TO THE 2020 UWMP.

SOURCE: WATER SUPPLY ASSESSMENT – RIVER WALK SPECIFIC PLAN (WEST YOST ASSOCIATES, 2022).

The projected future water demand shown above in Table 3.14-4 is based on future normal hydrologic years. However, as indicated in the 2020 UWMP, the City does not anticipate a reduction in available water supplies under any hydrologic condition as described in the following sections.

DRY YEAR WATER DEMAND

The City has a Water Shortage Contingency Plan (WSCP) included in the 2020 UWMP to address situations when catastrophic water supply interruptions occur due to regional power outage, earthquake, or other disasters; and when drought occurs. The City's WSCP describes six stages of short-term water demand reduction measures that would be required during times when potable water supply is reduced. As discussed below, the City does not anticipate any reduction in potable supply due to dry year conditions through 2040. Therefore, the water shortage stages will most likely be implemented in response to power outages, earthquakes, or other disasters rather than drought-related supply issues. The water shortage stages, and their respective anticipated reduction in potable water demand, are shown in Table 3.14-5.

TABLE 3.14-5: WATER SHORTAGE CONTINGENCY PLAN PROJECTED DEMAND REDUCTION

WATER SHORTAGE STAGE DESCRIPTION	*PERCENT DEMAND REDUCTION*
Baseline Water Conservation	0
Stage I – Minimal Action	10
Stage II – Moderate Action	20
Stage III – Severe Action	30
Stage IV – Severe Action	40
Stage V – Critical Action	50
Stage VI – Critical Action	Greater than 50

SOURCE: CITY OF RIVERBANK 2020 UWMP, FIGURE 8-1.

As indicated in the 2020 UWMP, the City does not anticipate a change in available water supplies or water demands during single-dry year hydrologic conditions. Therefore, the City would not expect the Project water demand to vary in single-dry years compared to normal hydrologic circumstances.

Additionally, as indicated in the 2020 UWMP, during a multiple-dry year event, the City does not anticipate a change in available water supplies; however, the City does anticipate a change in water demands.

Table 3.14-6 presents the projected future dry year potable water demand.

TABLE 3.14-6: PROJECTED FUTURE DRY YEAR POTABLE WATER DEMAND

HYDROLOGIC CONDITION	*DEMAND REDUCTION[A]*	*2025*	*2030*	*2035*	*2040*	*2045[C]*
Single Dry Year[B], AFY	0%	4,646	4,867	5,088	5,309	5,530
MULTIPLE DRY YEARS[D][E]						
First Year		4,513	4,739	4,964	5,190	5,416
Second Year		4,513	4,739	4,964	5,190	5,416
Third Year		4,558	4,786	5,014	5,242	5,470
Fourth Year		4,604	4,834	5,064	5,295	5,525
Fifth Year		4,650	4,883	5,115	5,348	5,581

NOTES: AFY = ACRE-FEET PER YEAR.

[A] CONSERVATIVELY ASSUMES NO DEMAND REDUCTION IN DRY YEARS. DEMANDS MAY BE REDUCED IN DRY YEARS AS A RESULT OF THE CITY'S IMPLEMENTATION OF ITS WATER SHORTAGE CONTINGENCY PLAN; HOWEVER, SUCH A DEMAND REDUCTION IS NOT ASSUMED OR RELIED UPON FOR THE PURPOSES OF THE SINGLE DRY YEAR AND MULTIPLE DRY YEAR EVALUATIONS FOR THE WSA.

(B) *See Table 7-3 Single Dry Year Supply and Demand Comparison of the City's 2020 UWMP.*

(C) *While the City's 2020 UWMP did not include a projection for projected single dry year potable water demand in 2045, the value shown here is based on an extrapolation from the 2040 projections.*

(D) *See Table 7-4, Multiple Dry Years Supply and Demand Comparison, in the City's 2020 UWMP.*

(E) *The City's 2020 Urban Water Management Plan did not include a projection for projected water demand in 2045. The value shown here is based on increasing demands by 226 to 233 AF from 2040 projections. This same method of adding 226 to 233 AF to the previous 5-year increment's demand projection is the method used in the 2015 UWMP for projecting the water demand in years 2020 through 2040. This projected water demand increase assumes an approximate 4 percent growth in water demands, to be consistent with the 5.9 to 0.4 percent increase in historical average population growth from 2015 through 2020, according to the 2020 UWMP.*

Source: Water Supply Assessment - River Walk Specific Plan (West Yost Associates, 2022).

In the City's 2020 UWMP, and the Water Supply Assessment prepared for the proposed Project, the additional water conservation which may occur in single dry year is not assumed to happen. This is a conservative assumption as additional water conservation may indeed occur. However, it is assumed that a modest level of demand reduction will occur as a result of the City's implementation of additional water conservation measures as outlined in the City's WSCP in response to multiple dry years or other water supply shortages.

City of Riverbank Water Supply

As the City relies exclusively on groundwater as a potable water supply, water supply for the Project would be groundwater. The water supply for the Project will have the same water supply reliability and water quality as the water supply available to the City's other existing and future water customers. Proponents of the Project will provide their proportionate share of required funding to the City for the acquisition and delivery of potable groundwater to the Project area.

The water supplies needed to serve the Project (together with existing water demands and planned future uses) are described in the City's 2020 UWMP. Therefore, the summary description of the City's groundwater supplies, provided below, have been taken for the most part, from the City's 2020 UWMP, which was adopted in October 2021.

Groundwater Supply

The City, and its General Plan area, is located within the Stanislaus and San Joaquin Basins of the Great Central Valley. As detailed in the City's 2020 UWMP, the City's groundwater wells are located in the Modesto groundwater subbasin and the City is part of the Stanislaus and Tuolumne Rivers Groundwater Basin Association (STRGBA) Groundwater Sustainability Agency (GSA). The STRGBA GSA partnered with the County of Tuolumne GSA to develop and adopt the Modesto Subbasin Groundwater Sustainability Plan (GSP). The Modesto Subbasin GSP was adopted by the STRGBA GSA on January 31, 2022. The Modesto Subbasin GSP accounted for expected population growth in the City of Riverbank to approximately 52,500 by 2025, based on the 2005-2025 General Plan adopted in 2009, which is much higher than the more recent population projections which project a population of only 30,549 by 2040. Even with the large population growth assumed in the GSP, the City's groundwater supplies are expected to be highly reliable for serving a future development such as the proposed Project. As explained in detail in Chapter 3.9 (Hydrology and Water Quality), the

GSP identifies that the subbasin declining water levels are occurring primarily in the eastern Subbasin – not the central Subbasin where the City is located.

Furthermore, many measures and policies are presented in the GSP which to ensure long-term sustainability of the Modesto Subbasin and will be implemented over the coming years. The City's UWMP includes Demand Management Measures (DMMs) for water waste prevention ordinances, metering, conservation pricing, public education and outreach, programs to assess and manage distribution system real loss, and water conservation program coordination and staffing support. The cities that are within the Modesto Groundwater Basin each implement additional water conservation programs.

Riverbank has several additional DMMs:

- Water survey programs for single-family residential and multi-family residential customers
- Large landscape conservation programs and incentives
- High efficiency washing machine rebate program
- High efficiency toilet replacement
- Residential plumbing retrofit
- Conservation programs for commercial, industrial and institutional accounts

Additionally, as noted in the GSP, each member City, including Riverbank, includes policies within the General Plan to further encourage water conservation and overall water system efficiency.

One of the specific policies mentioned in the GSP that the City of Riverbank will implement, to achieve its goal of adequately supplying quality water to serve existing and future project development needs, is: "new developments shall incorporate water conservation techniques to reduce water demand in new growth areas, including the use of reclaimed water for landscaping and irrigation." While water conservation measures and use of reclaimed water for landscaping and irrigation use, where possible, will help reduce overall demand, even without these measures, the groundwater availability in Riverbank is expected to be adequate to serve the expected demand from the proposed Project.

Groundwater Production. According to California's Groundwater Bulletin 118, updated in 2004, 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 310,000AF, 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 percent 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 percent of the total annual basin recharge.

The Modesto Subbasin experienced a decline of groundwater in storage of 43,000 AFY during historical conditions, based on an inflow of 440,000 AFY and an outflow of 483,000 AFY. The historical water budget estimates groundwater production of 311,000 AFY; by subtracting the groundwater deficit from the groundwater production, a simplified sustainable yield of 268,000 AFY can be estimated for the historical study period.

The average annual depletion in groundwater for the current and projected conditions are 125,000 AFY and 11,000 AFY, respectively. The average decline of groundwater in storage of 11,000 AFY during projected conditions is significantly less than historical storage depletion of 43,000 AFY. However, this decline occurs at the expense of increased seepage of 86,000 AFY from primarily the Stanislaus and Tuolumne rivers in response to water level declines. This future increase in streamflow depletion as predicted by the model is considered significant and unreasonable within the meaning of that term under the Sustainable Groundwater Management Act.

The historical water budget estimates groundwater production of approximately 311,000 AFY. Given the average depletion of groundwater in storage is 43,000 AFY, a sustainable yield of approximately 268,000 AFY can be estimated for the historical study period. This is a simplistic estimate and does not take into account other important components of the water budget, such as interconnected surface water. Accordingly, this estimate cannot be projected for future conditions in the Subbasin.

A more technically defensible sustainable yield estimate was developed for projected future conditions using the California Central Valley Groundwater-Surface Water Simulation Model (C2VSim) as described below. It is noted that C2VSim is a computer program that simulates water movement through the linked land surface, groundwater, and surface water flow systems in California's Central Valley. The C2VSim model contains monthly historical stream inflows, surface water diversions, precipitation, land use, and crop acreages.

Two scenarios were simulated using the C2VSim: Scenario 1 includes three urban and municipal projects, and Scenario 2 adds agriculturally based in-lieu and direct recharge projects to Scenario 1. Scenario 1 projects are expected to reduce net groundwater pumping in the Subbasin by 13,700 AFY and will reduce the annual groundwater storage deficit by 1,500 AFY, from 11,000 AFY under Baseline conditions to 9,500 AFY under Scenario 1. Scenario 2 projects are expected to reduce groundwater pumping by 44,000 AFY and will reduce the annual groundwater storage deficit by 12,400 AFY, resulting in a net positive change in storage of 1,400 AFY.

Under sustainable conditions, the Modesto Subbasin is expected to maintain an average net extraction of 7,000 AFY, compared to a net extraction of 39,000 AFY under projected conditions. This reduction in net extraction is attributed to the reduction of groundwater pumping, which is reduced from 314,000 AFY under the Baseline to 267,000 AFY under sustainable yield, combined with an overall reduction in percolation of agricultural applied water of 14,000 AFY between the two scenarios.

The sustainable yield of the Modesto Subbasin is developed by methodically reducing groundwater demand for the net groundwater extractors (Sustainability Group 2) in the Subbasin. The goal of this groundwater demand reduction is to reduce groundwater pumping to a level that would result in no undesirable results if continued in the long-term.

The presence of undesirable results is evaluated by analyzing sustainability indicators produced by the numerical model, including groundwater in storage, groundwater levels, and interconnected stream systems. It is assumed that by using groundwater levels as proxy for other applicable sustainability indicators (i.e., groundwater quality and land subsidence), the sustainable yield would address all applicable sustainability indicators in the Modesto Subbasin.

This analysis results in a sustainable yield of 267,000 AFY for the Modesto Subbasin. The sustainable yield is based on the current and latest data and information for the subbasin. It is expected that the sustainable yield estimate would be updated for the next GSP update in 2027, as additional data and information become available on the operation of the Subbasin, implementation of projects and management actions, groundwater levels, storage, and quality, and as updates to the tools and technology, such as updates to the integrated numerical model are implemented.

In its entirety, the Modesto Subbasin has an agricultural supply requirement of approximately 513,000 AFY. During the historical calibration period, on average, the Modesto Subbasin's agricultural demand is met through a combination of 289,400 AFY of surface water and 223,600 AFY of groundwater production. Additionally, the urban water demand in the Modesto Subbasin has averaged 88,600 AFY, with 26,000 AFY coming from surface water, and 62,600 AFY coming from groundwater.

Historical Groundwater Pumping. 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). It is estimated that at full build-out, for the entire City Planning 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.

Groundwater pumping by the City from 2016 to 2020 is summarized in Table 3.14-7.

TABLE 3.14-7: HISTORICAL GROUNDWATER PUMPING, AFY

	2016	*2017*	*2018*	*2019*	*2020*
Groundwater Supply	3,750	4,052	4,320	4,266	4,452

SOURCE: CITY OF RIVERBANK 2020 UWMP, APPENDIX G.

Water Supply Availability and Reliability

The City's groundwater supply reliability as described in the City's 2020 UWMP is summarized below.

GROUNDWATER SUPPLY RELIABILITY

There are many factors that can affect groundwater supply reliability, including current storage conditions, water quality, seasonal groundwater level variations, and climate change. The City does not anticipate a quantitative reduction in available water supplies under any hydrologic condition. Furthermore, historical water quality at the City's wells has been excellent, with no Safe Drinking Water Act violations to-date. The City expects this water quality to continue and, therefore, does not project any water supply changes due to water quality.

The anticipated reliability of potable groundwater supplies in Normal, Single Dry, and Multiple Dry hydrologic conditions is shown in Table 3.14-8.

TABLE 3.14-8: CITY OF RIVERBANK GROUNDWATER SUPPLY RELIABILITY, AFY

WATER SUPPLY	*NORMAL YEAR*	*SINGLE DRY YEAR*	*MULTIPLE DRY YEARS*				
			YEAR 1	*YEAR 2*	*YEAR 3*	*YEAR 4*	*YEAR 5*
Groundwater	15,944	15,944	15,944	15,944	15,944	15,944	15,944
Totally Water Supply Available	**15,944**	**15,944**	**15,944**	**15,944**	**15,944**	**15,944**	**15,944**
Percent of Normal Year	100%	100%	100%	100%	100%	100%	100%

NOTES: AFY = ACRE-FEET PER YEAR.

SOURCE: WATER SUPPLY ASSESSMENT – RIVER WALK SPECIFIC PLAN (WEST YOST 2022).

GROUNDWATER SUPPLY RELIABILITY

As of February 2018, Well No. 11, was been designed and planned for the south side of Santa Fe Street, east of Central Avenue in rural northeastern Riverbank. The City's 2007 WMP suggested the addition of 11 new groundwater wells (including Well No. 11), with a capacity of 1,500 gpm each, to meet 20 percent reserve capacity provisions and maximum day demands, as well as emergency storage requirements at build-out conditions. Eight of these new wells would be in the area west of the current City limits, some of which would be in the Project area. With the exception of Well No. 11, all other additional wells are currently only conceptual.

Aside from plans to gradually add wells to the City's groundwater network, the City does not have other planned future potable water supplies. 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.

Planned Infrastructure Updates

Domestic water service will be provided to the Plan Area through the installation of a pressurized water system made up of wells, water tanks, water mains, and a pressure regulating station. Figure 2.0-14 illustrates the preliminary water plan. It is noted that the final location of water mains, tanks, wells, and pressure regulating stations is subject to change.

Due to the elevation differences across the Plan Area, the water system has two pressure zones (PZ-1 and PZ-2), which call for pressure regulating stations to be incorporated into the project. The water system is made up of 12" water mains located predominately in the arterial and collector roadways.

The 12" lines will feed into a system of 8" lines and ultimately into the individual service connections. The water system ultimately requires two wells, which preliminary plans call for in the eastern and northern portions of the Specific Plan Area.

The water system ultimately requires a 2-million-gallon water tank. A variety of engineering considerations were made to find the best location for the tank, but another important factor was visibility. It was determined that the tank could be situated in the eastern portion of the Specific Plan Area in an area near a planned storm drainage basin, outside a residential village, and partially hidden by topography.

It is proposed to connect to the existing City water system with a proposed 12-inch transmission main in Patterson Road. This main would extend from the project, and connect to an existing 12" waterline at approximately 400 feet to the west of the intersection of Hot Springs Lane. As an alternative, a secondary connection to the existing City water system may be made in Cipponeri Road, approximately 450 feet south of the intersection of Candlewood Place.

While a tank and two wells are needed to serve the ultimate build-out of the plan area, all of these items will not be needed to serve the initial stages of development. A detailed study will be performed with the preparation of improvement plans that will indicate the timing of when the proposed tank and wells will be necessary to serve the development.

The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed water supply, transmission main lines, water storage tank, and well site upon installation of the improvements.

The proposed wells to be constructed with the Specific Plan Area will be sufficient to supply the needs of the proposed Project. The connection to the City system is intended to provide some initial development in advance of constructing a well site, as well as to provide some system redundancy/reliability in case one or more components of the Specific Plan infrastructure needs to be taken offline (e.g. water main break, well taken offline due to pump failure). Upon connecting to the citywide system there will some water flow from the Project wells that serves the citywide system.

REGULATORY SETTING

Safe Drinking Water Act

The federal Safe Drinking Water Act as passed in 1947 and amended in 1986 and 1996. It is the Country's primary law regulating drinking water quality and in implemented by the United States Environmental Protection Agency (US EPA). The Safe Drinking Water Act authorizes the US EPA to set national health-based standards for drinking water and requires actions to protect drinking water and its sources. Additionally, it provides for treatment, monitoring, sampling, analytical methods, reporting, and public information requirements. Implementation of the Act, in California, is under the jurisdiction of the California Department of Public Health (CDPH), Division of Drinking

Water and Environmental Management. Drinking Water regulations are set forth in the California Code of Regulations (CCR), Titles 7 and 22.

Water Conservation Projects Act

California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (Water Code Sections 11950 – 11954).

Consistent with California Water Code Sections 11950 – 11954, the City has implemented various water conservation efforts, as well as Water Shortage Contingency Plan that identifies actions that can be taken to respond to catastrophic interruption of water supply.

Senate Bill 610

Senate Bill (SB) 610 was adopted in 2001 and reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. SB 610 amended the statutes of the Urban Water Management Planning Act, as well as the California Water Code Section 10910 et seq. The foundation document for compliance with SB 610 is the Urban Water Management Plan (UWMP), which provides an important source of information for cities and counties as they update their general plans. Likewise, planning documents such as general plans and specific plans form the basis for the demand information contained in an UWMP, as well as a Water Supply Assessment required under SB 610.

Water Code Section 10910 (c)(4) states "If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

Water supply planning under SB 610 requires reviewing and identifying adequate available water supplies necessary to meet the demand generated by a project, as well as the cumulative demand for the general region over the next 20 years, under a broad range of water conditions. This information is typically found in the current UWMP for the project area. SB 610 requires the identification of the public water supplier for a project.

In addition, SB 610 requires the preparation of a Water Supply Assessment if a project meets the definition of a "Project" under Water Code Section 10912 (a). The code defines a "Project" as meeting any of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A commercial building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A hotel or motel with more than 500 rooms;

- A proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of these elements; or
- A project creating the equivalent demand of 500 residential units.

Alternately, if a public water system has less than 5,000 service connections, the definition of a "Project" includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of service connections for the public water system.

Based on the following assumptions, SB 610 does apply to the proposed Project:

1. The proposed Project is subject to CEQA and an EIR is required.
2. The proposed Project, with up to 2,432 proposed residential dwelling units, and other non-residential land uses, meets the definition of a "Project" as specified in Water Code section 10912(a) paragraph (1) as defined for residential development.

The proposed Project has not been the subject of a previously adopted WSA and has not been included in an adopted WSA for a larger project. Thus, a WSA, as required by these criteria under SB 610, has been prepared for the Project. The Water Supply Assessment is included in Appendix H of this EIR.

Sustainable Groundwater Management Act

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package, composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, that will be 2040. For the remaining high and medium priority basins, 2042 is the deadline.

SGMA empowers local agencies to form Groundwater Sustainability Agencies (GSAs) to manage basins sustainably and requires those GSAs to adopt Groundwater Sustainability Plans (GSPs) for crucial groundwater basins in California. As noted previously, the Stanislaus and Tuolumne Rivers Groundwater Basin Association became the exclusive GSA for the Modesto Subbasin on May 27, 2017. As detailed in the City's 2020 UWMP, the City's groundwater wells are in the Modesto groundwater subbasin and the City is part of the Stanislaus and Tuolumne Rivers Groundwater Basin Association and was a part of the development of the IRGMP for the Modesto Subbasin in 2005.

For further discussion of the SGMA, see Section 3.9, Hydrology and Water Quality, of this EIR.

Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act was established to ensure that adequate water supplies are available for future uses. To promote the conservation and efficient use of water, the Water Conservation in Landscaping Act requires local agencies to adopt a water efficient landscape ordinance. When such an ordinance had not been adopted, a finding as to why (based on the climatic, geologic, or topographical conditions) such an ordinance is not necessary, must be adopted. In the absence of such an ordinance or findings, the policies and requirements contained in the "model" ordinance drafted by the State of California shall apply within the affected jurisdiction.

Model Water Efficient Landscape Ordinance

New development and retrofitted landscape water efficiency standards are governed by the Model Water Efficient Landscape Ordinance (MWELO). The MWELO is also referenced by Title 24, Part 11 CalGreen Building Code. All local agencies must adopt, implement, and enforce the MWELO or a local Water Efficient Landscape Ordinance (WELO) that is at least as effective as the MWELO. Usually, local agencies that adopt WELOs create a more stringent ordinance than MWELO.

The purpose of water efficient landscape ordinances is to not only increase water efficiency but to improve environmental conditions in the built environment. Landscaping should be valued beyond the esthetic because landscapes replace habitat lost to development and provide many other related benefits such as improvements to public health and quality of life, climate change mitigation, energy and materials conservation and increased property values

City of Riverbank General Plan

GOAL: LAND USE

- LAND-5. Full Range of Public Services and Facilities for All Area of the Community.

POLICIES: LAND USE

- LAND-5.1. The City will maintain public services and facilities in the existing developed City and make improvements as necessary to maintain a consistent Citywide level of service.
- LAND-5.2. Infill development will be given priority to remaining capacity for water supply and delivery, wastewater treatment and conveyance, stormwater collection and conveyance, and other services and infrastructure currently in place. Development impact fees shall reflect the existing capacity to serve infill development areas. Any urban development of new growth areas shall plan and finance necessary infrastructure and service expansion to serve those areas.
- LAND-5.5. Approved projects, plans, and subdivisions in new growth areas will set aside adequate land for, and shall otherwise accommodate public infrastructure and service needs consistent with General Plan policy.

GOAL: PUBLIC SERVICES AND FACILITIES

- PUBLIC-2. Adequate Supply of Quality Water to Serve Existing and Future Projected Development Needs.

POLICIES: PUBLIC SERVICES AND FACILITIES

- PUBLIC-2.1. The City will require that water supply, treatment, and delivery meet or exceed local, State, and federal standards.
- PUBLIC-2.2. The City will manage and enhance the City's water supply and facilities to accommodate existing and planned development, as identified in the City's Water Master Plan, Urban Water Management Plan, and Groundwater Source Efficiency Report.
- PUBLIC-2.3. New developments shall incorporate water conservation techniques to reduce water demand in new growth areas, including the use of reclaimed water for landscaping and irrigation.
- PUBLIC-2.4. The City will condition approval of new developments on demonstrating the availability of adequate water supply and infrastructure, including multiple dry years, as addressed in the City's Water Master Plan, Urban Water Management Plan, and Groundwater Source Efficiency Report.
- PUBLIC-2.5. The City will not induce urban development by providing provide water services in areas outside the Planning Area or areas not planned for urban development, such as areas designated for agriculture or open space.

GOAL: CONSERVATION AND OPEN SPACE

- CONS-6. Maintain or Increase Surface and Groundwater Quality and Supply.

POLICIES: PUBLIC SERVICES AND FACILITIES

- CONS-6.6. 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.

Utility Master Plans

The City of Riverbank maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *2015 Urban Water Management Plan* (2016), *Water Supply Study and Water Master Plan* (2007), *Storm Drain System Master Plan* (2008), and *Sewer Collection System Master Plan* (2007).

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project may have a significant impact on the environment associated with Utilities if it would:

- Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects; and/or

- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-3: The proposed Project has the potential to require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects. (Significant and Unavoidable)

Land outside of the Specific Plan Area, but within the SOI boundary expansion, would not be converted to urban uses under the proposed Project. As such, this area would continue to operate as agricultural and rural residential uses utilizing existing private wells and water systems. At some future time, property owners in this area may decide to move forward with a long-range planning effort (i.e., Specific Plan). At that future time, the property owners would be required to define the uses that they propose to development, and that would allow for water supply engineering for that defined project. Until such time that land uses are defined in that area, it is not possible to design water distribution, storage, and well facilities necessary in this area. The focus of the analysis below is on water infrastructure associated with the proposed Specific Plan.

Domestic water service will be provided to the Specific Plan Area through the installation of a pressurized water system made up of onsite wells, water tanks, water mains, and a pressure regulating station. Figure 2.0-14 illustrates the preliminary water plan. It is noted that the final location of water mains, tanks, wells, and pressure regulating stations is subject to change.

Due to the elevation differences across the Plan Area, the water system has two pressure zones (PZ-1 and PZ-2), which call for pressure regulating stations to be incorporated into the project. The water system is made up of 12” water mains located predominately in the arterial and collector roadways. The 12” lines will feed into a system of 8” lines and ultimately into the individual service connections. The water system ultimately requires two wells, which preliminary plans call for in the eastern and northern portions of the Specific Plan Area.

The water system ultimately requires a 2-million-gallon water tank. A variety of engineering considerations were made to find the best location for the tank, but another important factor was visibility. It was determined that the tank could be situated in the eastern portion of the Specific Plan Area in an area near a planned storm drainage basin, outside a residential village, and partially hidden by topography.

It is proposed to connect to the existing City water system with a proposed 12-inch transmission main in Patterson Road. This main would extend from the project, and connect to an existing 12” waterline at approximately 400 feet to the west of the intersection of Hot Springs Lane. As an alternative, a secondary connection to the existing City water system may be made in Cipponeri Road, approximately 450 feet south of the intersection of Candlewood Place.

While a tank and two wells are needed to serve the ultimate build-out of the plan area, all of these items will not be needed to serve the initial stages of development. A detailed study will be performed with the preparation of improvement plans that will indicate the timing of when the proposed tank and wells will be necessary to serve the development.

The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed water supply, transmission main lines, water storage tank, and well site upon installation of the improvements.

As discussed in Impact 3.9-2 in Section 3.8, Hydrology and Water Quality, the proposed Project would be required to build new municipal water wells to increase capacity of available water. The proposed wells will be sufficient to supply the needs of the proposed Project. The connection to the City system is intended to provide some initial development in advance of constructing a well site, as well as to provide some system redundancy and reliability.

As discussed in the City's 2020 UWMP, the City's groundwater wells are located in the Modesto groundwater subbasin and the City is part of the STRGBA GSA. The Modesto Subbasin GSP accounted for expected population growth in the City of Riverbank to approximately 52,500 by 2025, based on the 2005-2025 General Plan adopted in 2009, which is much higher than the more recent population projections which project a population of only 30,549 by 2040. Even with the large population growth assumed in the GSP, the City's groundwater supplies are expected to be highly reliable for serving a future development such as the Proposed Project. The GSP identifies that the subbasin declining water levels are occurring primarily in the eastern Subbasin – not the central Subbasin where the City is located. Furthermore, many mitigation measures are presented in the GSP to ensure long-term sustainability of the Modesto Subbasin and will be implemented over the coming years. One of the specific policies mentioned in the GSP that the City of Riverbank will implement, to achieve its goal of adequately supplying quality water to serve existing and future project development needs, is: "new developments shall incorporate water conservation techniques to reduce water demand in new growth areas, including the use of reclaimed water for landscaping and irrigation." While water conservation measures and use of reclaimed water for landscaping and irrigation use, where possible, will help reduce overall demand, even without these measures, the groundwater availability in Riverbank is expected to be adequate to serve the expected demand from the Proposed Project.

The installation of the improvements will be within the footprint of the Specific Plan Area. The impacts associated with development in the Specific Plan have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a less than significant impact, while in other cases it was determined that development would have a significant and unavoidable impact (i.e., loss of prime farmland). Consistent with the conclusions made throughout this EIR, installation of the water distribution system infrastructure to serve the proposed Project would have a ***significant and unavoidable*** impact.

Impact 3.14-4: There are sufficient water supplies available to serve the Project from existing entitlements and resources. (Less than Significant)

As previously discussed, land outside of the Specific Plan Area, but within the SOI boundary expansion, would not be converted to urban uses under the proposed Project. As such, this area would continue to operate as agricultural and rural residential uses utilizing existing private wells and water systems and would not connect to municipal water. At some future time, property owners in this area may decide to move forward with a long-range planning effort (i.e., Specific Plan). At that future time, the property owners would be required to define the uses that they propose to development, and that would allow for calculations of water demand for that defined project. Until such time that land uses are defined in that area, it is not possible to calculate water demand. The focus of the analysis below is on water demand and supply associated with the proposed Specific Plan.

PROJECTED WATER DEMAND FOR THE SPECIFIC PLAN

Residential water use factors are based on the City's 2007 Water Master Plan. The residential land use water use factors shown in Table 3.14-9 were applied to the proposed land uses to project total water demands for the Specific Plan.

TABLE 3.14-9: UNIT WATER DEMAND FACTORS[(A)]

LAND USE DESIGNATION	*WATER USE FACTOR*
Buffer/Greenway/Open Space - Bluff	0 gpd/ac
Buffer/Greenway/Open Space - Canal	0 gpd/ac
Buffer/Greenway/Open Space – River Park	0 gpd/ac
High Density Residential[1]	435 gpd/DU
Low Density Residential[1]	625 gpd/DU
Medium Density Residential[1]	600 gpd/DU
Mixed Use	2,000 gpd/ac
Park	2,500 gpd/ac
Park – Ponding Basin	2,500 gpd/ac
Reserve	0 gpd/ac
ROW	0 gpd/ac

NOTES: GPD/AC = GALLONS PER DAY PER ACRES, GPD/DU = GALLONS PER DAY PER DWELLING UNIT.

[1] RESIDENTIAL WATER USE FACTORS ARE BASED ON THE CITY'S 2007 WATER MASTER PLAN. SEVERAL WATER CONSERVATION RULES HAVE BEEN ENACTED SINCE 2007. AS SUCH, THE RESIDENTIAL WATER USE FACTORS ARE CONSIDERED CONSERVATIVE AS THEY DO NOT REFLECT CURRENT CONSERVATION MEASURES.

SOURCE: WATER SUPPLY ASSESSMENT – RIVER WALK SPECIFIC PLAN (WEST YOST ASSOCIATES, 2022).

Based on the water use factors shown in Table 3.14-9, the projected water demand for the Specific Plan is shown in Table 3.14-10. As indicated in Table 3.14-10, the total projected annual potable water demand for the Specific Plan is projected to be 2,294.3 AFY. The water demand projection includes a 12.3 percent factor for unaccounted-for water to match the system water loss reported in the City's 2020 American Water Works Association Water Audit Worksheet, included in the City's 2020 UWMP as Appendix N of Appendix H.

TABLE 3.14-10: PROJECTED WATER DEMAND FOR BUILDOUT OF THE PROPOSED PROJECT

LAND USE	*GROSS AREA (ACRES)*	*DWELLING UNITS (DU)*	*WATER USE FACTOR*	*WATER USE FACTOR UNITS*	*POTABLE WATER DEMAND (AFY)*
Low Density Residential	467.18	1,550	625	gpd/DU	1086.0
Medium Density Residential	78.70	702	600	gpd/DU	472.2
High Density Residential	10.02	180	435	gpd/DU	87.8
Mixed Use	71.70	--	2,000	gpd/ac	160.8
Park	43.34	--	2,500	gpd/ac	121.5
B/G/OS - Bluff	68.53	--	0	gpd/ac	0.0
B/G/OS - Canal	23.34	--	0	gpd/ac	0.0
B/G/OS– River Park	69.77	--	0	gpd/ac	0.0
Park – Ponding Basin	41.01	--	2,500	gpd/ac	114.9
Reserve	60.17	--	0	gpd/ac	0.0
ROW	63.37	--	0	gpd/ac	0.0
Subtotal	**997.13**	**2,432**	**--**	**--**	**2,043.1**
UAFW[A]	--	--	--	--	*251.3*
				TOTAL DEMAND	**2,294.3**

NOTES: GPD/AC = GALLONS PER DAY PER ACRES, GPD/DU = GALLONS PER DAY PER DWELLING UNIT, AFY = ACRE-FEET PER YEAR.
(A) BASED ON 12.3 PERCENT OF TOTAL WATER PRODUCTION (CITY'S 2020 AMERICAN WATER WORKS ASSOCIATION WATER AUDITING WORKSHEET AND CITY 2020 UWMP, OCTOBER 2021).
SOURCE: WATER SUPPLY ASSESSMENT – RIVER WALK SPECIFIC PLAN (WEST YOST ASSOCIATES, 2022).

PROJECTED WATER SUPPLY FOR THE SPECIFIC PLAN

Water demands for the proposed Specific Plan will be served using the City's existing portfolio of water supplies. The inclusion of existing and planned future supplies is specifically allowed by the Water Code:

> *Water Code section 10631(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).*

The Project applicants will provide their proportionate share of required funding to the City for the acquisition and delivery of groundwater to the Specific Plan Area.

Determination of Water Supply Sufficiency

Water Code section 10910 states:

> *10910(c)(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.*

Pursuant to Water Code section 10910(c)(4), and based on the technical analyses described in the *Water Supply Assessment – River Walk Specific Plan*, the total projected water supplies determined to be available for the proposed Project during normal, single-dry, and multiple-dry water years during a 20-year projection will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses.

According to the City's 2020 UWMP, the total water supplies available in 2020 (15,944 AF), satisfied the actual water demand in 2020 (4,425 AF). Therefore, the City had approximately 11,519 AF of unallocated water supply in 2020. The 2020 unallocated water supply significantly exceeds the 2,294.3 AFY total water demand of the Project.

The total water supplies projected to be available in 2040 in all year types (15,944 AF) satisfies the projected potential water demand in 2040 in all year types. With the projection of supply and demand presented previously for 2045, the total water supplies projected to be available in 2045 in all year types (15,944 AF) satisfies the projected potential water demand in 2040 in all year types. Therefore, the City is projected to have a range of approximately 9,316 AF to 9,481 of unallocated water supply in 2045 under all water year types. The future anticipated unallocated water supply significantly exceeds the 2,294.3 AFY total water demand of the Project.

The comparison of projected potable water demand and supplies for the 20-year planning period is shown in Table 3.14-11. As shown in the table, demand within the City's service area is not expected to exceed the City's supplies in any normal year between 2025 and 2045.

TABLE 3.14-11: SUMMARY OF POTABLE WATER DEMAND VS. SUPPLY DURING HYDROLOGIC NORMAL, SINGLE-DRY, AND MULTIPLE-DRY YEARS

HYDROLOGIC CONDITION		*SUPPLY AND DEMAND COMPARISON, AFY*				
		2025	*2030*	*2035*	*2040*	*2045*
NORMAL YEAR						
Available Water Supply		15,944	15,944	15,944	15,944	15,944
Total Water Demand (W/ Project)[(b)]		5,725	5,946	6,167	6,388	6,609
Potential Surplus (Deficit)		**10,219**	**9,998**	**9,777**	**9,556**	**9,335**
SINGLE DRY YEAR						
Available Water Supply		15,944	15,944	15,944	15,944	15,944
Total Water Demand (W/ Project)[(b)]		5,725	5,946	6,167	6,388	6,609
Potential Surplus (Deficit)		**10,219**	**9,998**	**9,777**	**9,556**	**9,335**
MULTIPLE DRY YEARS						
Multiple-Dry Year 1st Year Supply	Available Water Supply	15,944	15,944	15,944	15,944	15,944
	Total Water Demand (W/ Project)	5,592	5,818	6,043	6,269	6,494
	Potential Surplus (Deficit)	**10,352**	**10,126**	**9,901**	**9,675**	**9,450**
Multiple-Dry Year 2nd Year Supply	Available Water Supply	15,944	15,944	15,944	15,944	15,944
	Total Water Demand (W/ Project)	5,592	5,818	6,043	6,269	6,494
	Potential Surplus (Deficit)	**10,352**	**10,126**	**9,901**	**9,675**	**9,450**
Multiple-Dry Year 3rd Year Supply	Available Water Supply	15,944	15,944	15,944	15,944	15,944
	Total Water Demand (W/ Project)	5,637	5,865	6,093	6,321	6,549
	Potential Surplus (Deficit)	**10,307**	**10,079**	**9,851**	**9,623**	**9,395**
Multiple-Dry Year 4th Year Supply	Available Water Supply	15,944	15,944	15,944	15,944	15,944
	Total Water Demand (W/ Project)	5,683	5,913	6,143	6,374	6,604
	Potential Surplus (Deficit)	**10,261**	**10,031**	**9,801**	**9,570**	**9,340**

HYDROLOGIC CONDITION		*SUPPLY AND DEMAND COMPARISON, AFY*				
		2025	*2030*	*2035*	*2040*	*2045*
Multiple-Dry Year 5th Year Supply	Available Water Supply	15,944	15,944	15,944	15,944	15,944
	Total Water Demand (W/ Project)	**5,729**	**5,962**	**6,194**	**6,427**	**6,659**
	Potential Surplus (Deficit)	**10,215**	**9,982**	**9,750**	**9,517**	**9,285**

NOTES: AFY = ACRE-FEET PER YEAR.

(a) NORMAL YEAR DEMANDS ARE FROM TABLE -1 OF THE WSA AND DRY YEAR DEMANDS ARE BASED OFF THE DEMAND ASSUMPTIONS STATED IN TABLE 5-3 AND TABLE 5-4 OF THE WSA.

(b) TOTAL WATER DEMAND IS THE SUM OF TABLES 2-3, 5-1, 5-3, OR 5-4 WSA.

SOURCE: WATER SUPPLY ASSESSMENT – RIVER WALK SPECIFIC PLAN (WEST YOST 2022).

Using the dry year demand assumptions stated previously, no potential deficits in potable water supply occur with implementation of the proposed Project. In other words, the City's available supplies and demand reduction plans are sufficient to meet projected demands through 2045. Therefore, the City's total projected water supplies can easily satisfy the Project demands during Normal, Single Dry, and Multiple Dry water years over a 20-year projection.

Pursuant to Water Code section 10910(c)(4), and based on the technical analyses described in the Water Supply Assessment, the total projected water supplies documented to be available for the Project during Normal, Single Dry, and Multiple Dry water years during a 20-year projection are more than sufficient to meet the projected water demand associated with the Project, in addition to existing and planned future uses.

As identified above, the proposed Project would not result in insufficient water supplies available to serve the Project from existing entitlements and resources. Therefore, the proposed Project would result in a ***less than significant*** impact to water supplies.

3.14.3 STORM WATER

ENVIRONMENTAL SETTING

Existing Flood Concerns

Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

Portions of the land within the Project Area are currently located in the 500-year flood zone, 100-year flood zone, and Zone X. Zone X by definition indicates an area protected by levees from the 1% annual chance flood. The land in Zone X is found within the highland area, which is largely the southern portion of the Specific Plan Area, as well as the area of the SOI expansion that lies outside the Specific Plan Area. The land within the 100-year flood zone is entirely within the Specific Plan Area, in the lowland areas adjacent to the Stanislaus River and the western portion of the agricultural ditch. Figure 3.9-2 in Section 3-9, Hydrology and Water Quality, shows the 100- and 500-year flood boundaries.

The Project Area is outside the 200-year flood plain.

Existing Drainage Facilities

In general, the City of Riverbank drains from east to west. The City conveys runoff to multiple points along the Stanislaus River and to two MID canals (MID Main and Lateral No. 6). As indicated in the Storm Drain System Master Plan (Nolte, 2007c), the City storm drain system generally consists of the following facilities: collection piping ranging from 12 inches to 54 inches, four detention basins, six storm water pump stations, seven gravity storm water outfalls to the Stanislaus River, and one outfall to a MID Canal. MID and the City have entered into two storm drain discharge agreements authorizing a total of seven discharge points.

Typically, storm water is collected into detention basins and then pumped out within 24 to 48 hours following a storm. Additionally, the City enforces storm drain regulations established by the US EPA and the State of California. Storm drainage from industrial areas within the City is typically disposed of on site with the exception of the closed cannery, which may have drained into the sanitary sewer. Storm drainage from the newer commercial/industrial areas is either detained on site or released to the city system after the peak discharge has passed, or is disposed of on site.

MID distributes a combination of Tuolumne River water and groundwater via a network of storage facilities, canals, pipelines, pumps, drainage facilities and control structures. Additionally, the MID provides irrigation water to approximately 3,100 agricultural customers who irrigate close to 60,000 acres of permanent and annual crops. Water is transported to area farms via MID's 208 miles of canals and pipelines that operate on a gravity flow system. Surface water from the Tuolumne River flows downhill all the way from the beginning (MID's Upper Main Canal at La Grange) to the end of

MID's canal system (several locations where there are drains into the San Joaquin, Stanislaus and Tuolumne rivers).

The MID water conveyance and distribution system was designed to deliver water by gravity flow from La Grange Dam on the east to the San Joaquin River on the west. This gravity conveyance system is energy efficient, but occasionally creates operational outflows to downstream tributaries. While these operational outflows are of relatively high quality and generate no environmental impacts, they are a lost resource to MID. The need for on-farm surface drainage within the District is minimal, as the majority of the land within the irrigation service area is well drained. Much of the land is irrigated with the use of level basins allowing agricultural water users to retain all irrigation water applied on-farm within the parcels' boundaries.

There have been substantial improvements to MID's main and secondary canals since they were built in the early part of the 20th century. In addition to the District facilities, irrigators constructed ditches and pipelines necessary to convey water from the District's canals to the irrigated fields.

Future Storm Water Drainage Demand and System Improvements

The City of Riverbank completed a Storm Drain System Master Plan in 2008 that evaluated existing storm drainage infrastructure, identified system deficiencies, and recommended improvements.

System deficiencies were identified in specific areas of the City, including the Castleberg System, the Candlewood System, and the First Street Basin. The Castleberg Basin, for example, is currently at capacity and can no longer accept further connections to the system in this area. Additionally, the City estimates that approximately 60 acres of development within City limits discharges storm water into the sanitary sewer system. The Storm Drain System Master Plan recommends various improvements, by priority level, for existing system deficiencies and, in some cases, recommends further analysis that may potentially alleviate multiple areas where surcharging is likely to occur.

Any development and urbanization would increase runoff and will require adequate storm drainage facilities and improvements. The City's General Plan policies state that the City will enforce a no-net-runoff policy for areas proposed for development outside the current City limits. The City also has policies encouraging new development to utilize pervious surfaces and percolation ponds, for natural storm water collection and filtration, in concert with the City's existing and future drainage infrastructure, to help reduce the amount of runoff and encourage groundwater recharge. Developers will be required to fund and install drainage infrastructure in their projects. In addition, critical components of the system must be in place so as to prevent an increase in flow beyond the existing capacity.

REGULATORY SETTING

Clean Water Act

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for

a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e); Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r);
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s);
- Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

The California State Water Resources Control Board and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes. RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters including the Stanislaus River, and other waters in the Riverbank Planning Area. In the Riverbank Planning Area, the RWQCB is responsible for protecting surface and groundwater from both point and non-point sources of pollution. Water quality objectives for all water bodies within the Riverbank Planning Area were established by the RWQCB and are listed in its Basin Plan.

National Pollutant Discharge Elimination System (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including requirements addressing pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the

Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB under the CWA are also Waste Discharge Requirements issued under the authority of the state Porter-Cologne Water Quality Control Act (see below).

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

A Phase II Small Municipal Separate Storm Sewer (MS4) General Permit was adopted by the State Water Resources Control Board on February 5, 2013 became effective July 1, 2013. The Permit has numerous new components and the City is required to implement these components in stages over the five-year period of the Permit.

These Phase II MS4s are required to implement various storm water management programs. To comply with this permit, the City of Riverbank has taken necessary steps and adopted storm water management programs, including but not limited to:

- Post Construction Low Impact Development (LID) Standards, 2014;
- Low Impact Development Alternative Compliance Study, May 2015;
- Best Management Practices (BMP).

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations that limit development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community.

The design standard for flood protection is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 annual exceedance probability (AEP) (i.e., the 100-year flood event). Specifically, where levees provide flood protection, the levee crown is required by FEMA to have 3 feet of freeboard above the 1-in-100-AEP water surface elevation, except in the vicinity of a structure such as a bridge, where the levee crown must have 4 feet of freeboard for a distance of 100 feet upstream and downstream from the structure.

The City of Riverbank boundary does not include areas within the 100-year floodplain. However, a portion of the northwest portion of the Riverbank Planning Area contains areas within a 100-year

flood zone, based on the FEMA FIRM Map Number 0603910280 A, Panel 280, September 30, 2004. Portions of the Project Area are located within the 100-year floodplain.

It is noted that, under SB 5, 200-year flood protection is being phased in as a State requirement that is more protective than the federal requirements described above.

Department of Water Resources

The major responsibilities of the Department of Water Resources (DWR), which operates the State Water Project, include preparing and updating the California Water Plan to guide development and management of the State's water resources, planning, designing, constructing, operating, and maintaining the State Water Resources Development System, protecting and restoring the Sacramento-San Joaquin Delta, regulating dams, providing flood protection, assisting in emergency management to safeguard life and property, educating the public, and serving local water needs by providing technical assistance. In addition, the DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water; facilitates voluntary water transfers; and, when needed, operates a State drought water bank.

California Water Code

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

> *(a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:*

(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.

(2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.

(3) A person operating, or proposing to construct, an injection well.

(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

Water Quality Control Plan for the Central Valley Region

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

200-Year Flood Protection in Central Valley

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB 5), signed into law on October 10, 2007, created the Central Valley Flood Protection Act of 2008. The following list identifies the requirements of the California Department of Water Resources (DWR) and the Central Valley Flood Protection Board (previously known as the State Reclamation Board) under SB 5:

- To prepare and adopt a Central Valley Flood Protection Plan by 2012.

- To establish 200-year protection as the minimum urban level of flood protection, effective with respect to specific development projects as of 2015 or 2025, as explained below.
    - The DWR is directed to produce preliminary (i.e. Best Available) maps for 100-year and 200-year floodplains protected by project levees, and to make them available to cities and counties in the Sacramento-San Joaquin Valley ("Central Valley"). (Water Code Section 9610[a]) These best available maps were made available on September 8, 2008, and can be found at the California Department of Water Resources <http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/best_available_maps/>
- Sets deadlines for cities and counties in the Central Valley to amend their general plans and their zoning ordinances to conform to the Plan within 24 months and 36 months (i.e., approximately 2014 and 2015), respectively, of its adoption.
- Obligates Central Valley counties to develop flood emergency plans within 24 months of adoption of the Plan.
- By 2009 the Department of Water Resources ("Department") had to propose amendments to the California Building Standards Code ("Building Code") to protect areas with flood depths anticipated to exceed three feet for the 200-year flood event. SB 5 requires that the Building Code amendments are designed to reduce the risk of flood damage and increase safety.

No later than 2015, but potentially sooner depending on when the Central Valley Flood Protection Plan takes effect, SB 5 prohibits local governments from entering development agreements or approving entitlements or permits, including ministerial permits resulting in construction of a new residence in a flood hazard zone, which result in construction of a new residence in a flood zone unless one of three conditions are met:

- flood management facilities provide level of protection necessary to withstand 200-year flood event;
- the development agreement or other entitlements include conditions that provide protections necessary to withstand 200-year flood event; or
- the local flood management agency has made adequate progress on construction of a flood protection system that shall result in protections necessary to withstand 200-year flood event by 2025.

Adequate progress is defined as meeting all of the following:

1. The project scope, cost and schedule have been developed;
2. In any given year, at least 90% of the revenues scheduled for that year have been appropriated and expended consistent with the schedule;
3. Construction of critical features is progressing as indicated by the actual expenditure of budget funds;
4. The city or county has not been responsible for any significant delay in completion of the system; and

5. The above information has been provided to the DWR and the Central Valley Flood Protection Board and the local flood management agency shall annually report on the efforts to complete the project.

The Project Area is outside the 200-year flood plain and is not directly affected by this issue.

City of Riverbank General Plan

GOAL: LAND USE

- LAND-5. Full Range of Public Services and Facilities for All Area of the Community.

POLICIES: LAND USE

- LAND-5.1. The City will maintain public services and facilities in the existing developed City and make improvements as necessary to maintain a consistent Citywide level of service.
- LAND-5.2. Infill development will be given priority to remaining capacity for water supply and delivery, wastewater treatment and conveyance, stormwater collection and conveyance, and other services and infrastructure currently in place. Development impact fees shall reflect the existing capacity to serve infill development areas. Any urban development of new growth areas shall plan and finance necessary infrastructure and service expansion to serve those areas.
- LAND-5.5. Approved projects, plans, and subdivisions in new growth areas will set aside adequate land for, and shall otherwise accommodate public infrastructure and service needs consistent with General Plan policy.

GOALS: CONSERVATION AND OPEN SPACE

- CONS-4. Preserve Habitat Associated with the Stanislaus River While Increasing Public Access.
- CONS-6. Maintain or Increase Surface and Groundwater Quality and Supply.

POLICIES: CONSERVATION AND OPEN SPACE

- CONS-4.2. Approved projects, plans, and subdivisions shall provide for collection, conveyance, treatment, detention, and other stormwater management measures in a way that does not decrease water quality or alter hydrology in the Stanislaus River or associated groundwater recharge areas.
- CONS-6.3. Approved projects, plans, and subdivisions in new growth areas shall incorporate natural drainage system design that emphasizes infiltration and decentralized treatment (rather than traditional piped approaches that quickly convey stormwater to large centralized treatment facilities).[1]

[1] New growth areas are those included in the Riverbank Planning Area and outside of the City's Sphere of Influence as of January 1, 2007.

- CONS-6.4. The City will encourage the use of permeable surfaces for hardscape. Impervious surfaces such as driveways, streets, and parking lots will be minimized so that land is available for a natural drainage system to absorb stormwater, reduce polluted urban runoff, recharge groundwater, and reduce flooding.
- CONS-6.5. City street standards and parking requirements will balance the needs of transportation with the full range of community planning issues, including water quality, storm drainage, air quality, and other considerations.

GOAL: PUBLIC SERVICES AND FACILITIES

- PUBLIC-4. Storm Drainage Systems that Protect Public Safety, Preserve Natural Resources, and Prevent Erosion and Flood Potential.

POLICIES: PUBLIC SERVICES AND FACILITIES

- PUBLIC-4.1. The City will maintain and improve, as necessary, existing public storm basins and flood control facilities, as identified in the Stormwater Master Plan.
- PUBLIC-4.2. The City will coordinate with County and Regional agencies, as well as the railroad, in the maintenance and improvement of storm drainage facilities to protect the City's residents, property, and structures from flood hazards.
- PUBLIC-4.3. The City will consider a variety of means for floodplain management, depending on the context, which may include development, improvement, and maintenance of structural flood control facilities; land use policy and zoning to prohibit incompatible urban development within the floodplain; erosion control techniques; setbacks from flood-prone areas; and other measures, as circumstances dictate.
- PUBLIC-4.4. The City will identify areas, such as wetlands, low-lying natural runoff areas, and pervious surfaces and percolation ponds, for natural storm water collection and filtration, in concert with the City's existing and future drainage infrastructure, to help reduce the amount of runoff and encourage groundwater recharge.
- PUBLIC-4.5. New development shall be designed to control surface runoff discharges to comply with the National Pollutant Discharge Elimination System Permit and the receiving water limitations assigned by the Regional Water Quality Control Board.
- PUBLIC-4.6. The City will establish and new development shall implement nonpoint source pollution control measures and programs designed to reduce and control the discharge of pollutants into the City's storm drains and river.
- PUBLIC-4.7. The City will require minimization of the amount of new impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and, where feasible, maximize onsite infiltration of stormwater runoff.
- PUBLIC-4.8. The City will encourage pollution prevention methods, supplemented by pollutant source controls and treatment. Use small collection strategies located at, or as close to possible to the source (i.e., the point where water initially meets the ground) to minimize the transport or urban runoff and pollutants off-site.

- PUBLIC-4.9. The City will require the preservation and, where possible, will encourage that creation or restoration of areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones.
- PUBLIC-4.10. The City will limit disturbances of natural water bodies and natural drainage systems cause by development, including roads, highways, and bridges.
- PUBLIC-4.11. The City will require that new development avoid development in areas that are particularly susceptible to erosion and sediment loss; or, will require that these areas are identified and protected from erosion and sediment loss.
- PUBLIC-4.12. The City will encourage and/or require the use of open, vegetated swales, stormwater cascades, and small wetland ponds instead of pipes and vaults, as a part of urban development proposed outside current City limits to mitigate stormwater impacts.
- PUBLIC-4.13. The City will enforce a no-net-runoff policy for areas proposed for development outside the current City limits.

GOAL: SAFETY

- SAFE-1. Minimize the Loss of Life and Damage to Property Natural and Human-Caused Hazards.

POLICIES: SAFETY

- SAFE-1.6. The City will not allow the development of housing in the 100- and 200-year floodplain, as determined by the Federal Emergency Management Agency. The City may permit placement of non-residential improvements within the 100- and 200-year floodplain under a very limited set of circumstances. Any development project that includes structures or disturbances of natural features within the 100-year floodplain shall prove that the proposal does not:
    - Create danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads, or intended use.
    - Create difficult emergency vehicle access in times of flood.
    - Create a safety hazard due to the unexpected heights, velocity, duration, rate of rise and sediment transport of the flood water expected at the site.
    - Create excessive costs in providing governmental services during and after flood conditions, including maintenance and repair of public facilities.
    - Interfere with the existing waterflow capacity of the floodway.
    - Substantially increase erosion and/or sedimentation.
    - Contribute to the deterioration of any watercourse or the quality of water in any body of water.
- SAFE-1.7. The City will require any public facilities and critical facilities (e.g., hospitals, emergency command centers, communication facilities, fire stations, and police stations) in the 100- and 200-year flood zones to be flood-proofed to a point at or above the base flood level elevation from the Stanislaus River and be designed to mitigate potential flood risk to ensure functional operation during a flood event.

- SAFE-1.13. Ensure the City is in compliance with the Central Valley Flood Protection Plan (CVFPP)
- SAFE-1.14. The City, as necessary, will participate in a Regional Flood Management Plan.
- SAFE-1.15. The City will maintain, update, and make available to the public, as appropriate, FEMA 100- and 500-year Flood Insurance Rate Maps (FIRMs) and 200-year Floodplain maps, as they become available from the Department of Water Resources (DWR).
- SAFE-1.16. The City will use the best available flood hazard information and mapping from regional, State, and federal agencies and use this information to inform land use and public facilities investment decisions.

City of Riverbank Municipal Code

CHAPTER 151, FLOOD PLAIN MANAGEMENT

Chapter 151, Flood Plain Management, of the Municipal Code outlines the City's general food plain provisions, administration procedures, provisions for flood hazard reduction and conditions for variances.

Section 151.04 states that:

> *In order to accomplish its purposes, this subchapter includes regulations to:*
> *(A) Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;*
> *(B) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;*
> *(C) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;*
> *(D) Control filling, grading, dredging, and other development which may increase flood damage; and*
> *(E) Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas*.

CHAPTER 152, SUBDIVISIONS

Chapter 152, Subdivisions, of the Municipal Code outlines the subdivisions regulations for new development within the City. This chapter of the Code requires all new streets to be designed with curbs, gutters, sidewalks, storm drainage, and pavement. Section 152.038 of the Code summarizes the drainage facility requirements for new installation.

CHAPTER 155, GRADING

Chapter 155, Grading, of the Municipal Code outlines the grading and clearing performance standards for development within the City. Specifically, Section 155.04 of the Code outlines the standards for erosion and drainage control. The Code outlines the requirements for a person seeking a major grading permit. An application for a major grading/clearing permit requires a completed grading/clearing permit application, grading/clearing plan, grading/clearing statement, soils report (as required) and drainage improvement plan prepared by a registered civil engineer or licensed landscape architect.

Utility Master Plans

The City of Riverbank maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *2015 Urban Water Management Plan* (2016), *Water Supply Study and Water Master Plan* (2007), *Storm Drain System Master Plan* (2008), and *Sewer Collection System Master Plan* (2007).

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project may have a significant impact on the environment associated with Utilities if it would:

- Require or result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-5: The proposed Project has the potential to require or result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects. (Significant and Unavoidable)

Land outside of the Specific Plan Area, but within the SOI boundary expansion, would not be converted to urban uses under the proposed Project. As such, this area would continue to operate as agricultural and rural residential uses utilizing existing stormwater systems, which is mostly made up of agricultural ditches. At some future time, property owners in this area may decide to move forward with a long-range planning effort (i.e., Specific Plan). At that future time, the property owners would be required to define the uses that they propose to development, and that would allow for storm drainage engineering for that defined project. Until such time that land uses are defined in that area, it is not possible to design storm drainage basins or collection facilities necessary in this area. The focus of the analysis below is on storm drainage infrastructure associated with the proposed Specific Plan.

Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater. Portions of the land within the Specific Plan Area are currently located in the 500-year

flood zone, 100-year flood zone, and Zone X. Zone X by definition indicates an area protected by levees from the 1% annual chance flood. The land in Zone X is found within the highland area and the land within the 100-year flood zone is within the lowland areas adjacent to the river and the western portion of the agricultural ditch. The Project Area is outside the 200-year flood plain.

PROPOSED STORM DRAINAGE SYSTEM

Stormwater will be collected through a network of gutters, inlets, and storm drains that will direct storm water to storm water basins constructed within the Specific Plan Area. All stormwater would be pre-treated in accordance with current NPDES requirements, and would be detained prior to discharge into the MID canals or the Stanislaus River. Basins would be capable of storing the 50-year storm volume in accordance with City of Riverbank standards. Each watershed and basin are described below:

- The **North Basin** is designed to serve a 214-acre watershed with two connected basins totaling 6.2 acres combined that have a 24.9 ac-ft capacity. The basin has two alternatives: 1) Infiltration trench (French Drains approx. 4,850 LF, 6'Wx8'D), or 2) Pump Station that would discharge to the Stanislaus River at a flow of 2,365 GPM.
- The **West Basin** is designed to serve a 226-acre watershed with a 7.3-acre basin that has a 28.5 ac-ft capacity. The basin includes a Pump Station that would discharge to the MID Main Canal at a flow of 2,583 GPM.
- The **East Basin** is designed to serve a 231-acre watershed with a 5.8-acre basin that has a 25.8 ac-ft capacity. The basin includes a Pump Station that would discharge to the MID Spenker Drain at a flow of 2,335 GPM.
- The **South Basin** is designed to serve a 68-acre watershed with a 1.2-acre basin that has a 6.3 ac-ft capacity. The basin includes a Pump Station that would discharge to the MID Spenker Drain at a flow of 573 GPM.
- **Area A** is a 48-acre watershed with the exact location and design to be determined. This area currently has several homes, a nursery, and agricultural land. The storm drainage design would be needed as the property owners contemplate development of this land.
- **Area B** is a 34-acre watershed with the exact location and design to be determined. This area currently has four large estate homes and a variety of agricultural land. The storm drainage design would be needed as the property owners contemplate development of this land.
- **Area C** is a 15.5-acre watershed with the exact location and design to be determined. This area currently is agricultural land. The storm drainage design would be needed as the property owners contemplate development of this land.
- Note that Areas A, B, and C can provide storm drainage on an individual parcel basis as those parcels develop. Alternatively, they may accommodate storm drainage through a shared basin (or basins) if agreed to by the landowners within those watersheds. The determination to utilized shared basins or individual basins within each parcel will be made at the time of development within those watersheds.

Watershed sizes, boundaries, design volumes, infiltration trench sizes, and discharge flowrates shown herein are preliminary, only, and are subject to change as the project design advances into improvement plans.

The aforementioned basin volumes are based on the runoff from a 50-year, 24-hour storm event, which must be held no less than six inches below the lowest tributary rim elevation, consistent with City of Riverbank Standards. The proposed pump discharge rates are such that they would evacuate the volume from a 10-year design storm over a 48-hour period. This discharge rate is based on the City's requirements for basin evacuation through percolation facilities, though the City has no formal adopted standard for the maximum time to empty a basin via pumped discharge. Infiltration trenches or other percolation facilities may also be utilized as an alternative to pumped discharge to MID facilities.

Stormwater Discharge into MID-owned facilities will be subject to the terms of a Discharge Agreement between the City of Riverbank and MID. This agreement will describe such provisions as discharge flowrate limitations, maintenance obligations, fees, and other provisions.

The agreement will likely also allow the MID to temporarily restrict stormwater discharges to the canals, which may result in longer storage periods for volume within the basins. As mentioned previously, the City has no adopted standard for the maximum time to empty a basin via pump station. Nevertheless, basins will be designed to store the volume from a 50-year design storm at an elevation below the lowest tributary inlet. This requirement should also result in sufficient storage volume to protect building pads from inundation due to higher-runoff storm events, such as the 100-year design storm. Given these considerations, sufficient flood protection will still be provided by the basins in the event that pumped discharge into the MID is temporarily restricted.

The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed stormwater infrastructure, including basins, pump stations, inlets, pipelines, and appurtenant structures upon installation of the improvements.

PROPOSED STORM DRAINAGE SYSTEM – ALTERNATIVE

As an alternative, the project may utilize the 63 acre +/- reserve area as shallow flood storage to contain and infiltrate stormwater runoff from the project. Under this alternative, stormwater from the development would enter the proposed West Basin via concrete inlet structure. The West Basin would be sized to accommodate the "Water Quality Volume" from the tributary watershed. This volume is defined as the runoff resulting from an 85^{th} percentile 24-hour storm event, which is equivalent to a rainfall depth of approximately 0.50 in. This criterion is utilized throughout the State in the design of stormwater quality infrastructure.

Runoff volume that exceeds the capacity of the West Basin would overflow into the adjacent Reserve Area, which would function as an area of shallow flood storage. This approximate 63-acre area would store volumes at relatively shallow depths, and would allow the stored volume to infiltrate into the subsurface soils. A series of relatively short containment berms would be constructed

through the Reserve Area to distribute the flood storage more equally across the entire area, as well as to limit the depth of the storage.

The depth of flood storage within the Reserve Area would be limited to approximately 12 to 18 inches. The intent in limiting flood storage depth is to allow for the continued use of the orchard within the Reserve Area. Using the entire Reserve Area as flood storage area as described herein would provide sufficient capacity to accommodate approximately 440 acres of tributary area. This would be equivalent to the combined areas from the West Basin and North Basin watersheds, which may eliminate the need for a separate North Basin. Other equivalent combinations of watersheds and reduction of basin infrastructure may be utilized, as well. Using the Reserve Area for flood storage in this manner may also allow for the elimination or reduction of the proposed West Basin pump station discharge to the MID Main Canal.

CONCLUSION

Onsite storm drainage would be installed to serve the proposed Project. The City of Riverbank adopted a Low Impact Development Design and Specifications Manual to assist developers in meeting State and local mandates for storm water drainage. Negative impacts to the Stanislaus River, the San Joaquin Delta and regional wildlife have prompted many municipalities to design and adopt LID practices and guidelines. The Project Area is identified as a greenfield/rural residential property and floodplain in the Low Impact Development Design and Specifications Manual and does not have any other land data available due to it being outside the current City limit line.

As shown in Figure 2.0-13 in Section 2.0, a standalone drainage system that will detain all storm water runoff on-site in detention basins is proposed. Because of the greenfield/rural residential designation within the Low Impact Development Design and Specifications Manual, maintaining existing hydrological conditions by conserving natural areas and existing drainage features is an important consideration, where possible. Impervious hardscape surfaces (i.e., conventional roofs and paving) will be designed to discharge to pervious areas to help filter and infiltrate the stormwater runoff. To further aid infiltration, native soil compaction in landscaped areas will be minimized.

Land planning for the Specific Plan and the preliminary drainage design are integrated to emphasize water conservation, protect water quality, help reduce flooding, and improve the overall watershed health. The proposed LID practices are appropriate for the local and existing conditions found on the Specific Plan Area.

LID practices can greatly improve storm water quality by encouraging processes (such as sedimentation, filtration, or evapotranspiration) which reduce the pollutants present in urban and suburban runoff. The proposed Specific Plan will utilize LID guidelines and specifications throughout the proposed storm drainage system to ensure better water quality, recharging of ground water supplies where feasible, and reduce community infrastructure costs.

BMP'S go hand in hand with LID guidelines to help address significant water quality issues and hydrologic concerns that developments create. Several design goals are required by the City, including:

- conserve natural areas and drainages;
- minimize impervious surfaces, drain to pervious area;
- minimize soil compaction;
- mitigate peak runoff and associated erosion; and
- treat runoff in storm water BMPs.

Construction of the Specific Plan is anticipated to be phased and will be directed by demand and need. Because of this, temporary basins will be needed to handle storm water runoff until the permanent facilities are constructed. Water levels will not exceed four feet with two feet of freeboard for the temporary storm drain basins.

The landscape in the storm drain basins will serve two purposes: provide a visually appealing place for recreational activities, and serve as retention and assist in the detention of storm water runoff. Through the use of bio-swales, infiltration, inlets, and conduits, storm water will be managed efficiently while adhering to the strict standards set forth by the City of Riverbank LID Practices.

All new construction projects in the City of Riverbank are classified in the Low Impact Development Design and Specifications Manual based on their intended use (i.e., residential, Mixed Use, parking areas, etc.). The following design standards must be implemented for all project classifications:

- Mitigate peak run-off flow rates
- Conserve and create natural areas
- Minimize storm water pollutants of concern
- Protect slopes and channels
- Provide storm drain stenciling and signage
- Properly design outdoor material and trash storage areas
- Provide proof of ongoing BMP practices and maintenance
- Incorporate treatment control BMPs for water quality

LID practices are most effective when they are dispersed throughout a development project. The proposed Specific Plan has been designed with this in mind and features linear park drainage basins running throughout the Project Area. Treatment and attenuation of flows throughout the Project Area can be achieved by draining sidewalks to vegetated filter strips, constructing parking lots with permeable pavement, and outletting roof leaders to the surface of a bio-retention area.

The installation of the improvements will be within the footprint of the Specific Plan Area. Some physical impacts associated with development in the Specific Plan, such as agricultural conversion, etc., have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a significant and unavoidable impact (i.e., loss of prime farmland). The installation of improvements would contribute to physical impacts, including those that have been determined to be ***significant and unavoidable***. The project will be required to implement the

mitigation measures under each physical environmental impact identified. The topic does not require separate mitigation.

MITIGATION MEASURE(S)

Mitigation Measure 3.14-2*: Prior to the issuance of a grading permit, the Project applicant shall submit a drainage plan to the City of Riverbank for review and approval. The plan shall include an engineered storm drainage plan that demonstrates attainment of pre-Project runoff requirements prior to release and describes the volume reduction measures and treatment controls used to reach attainment consistent with the Riverbank Low Impact Development Design and Specifications Manual and the Riverbank Storm Drain System Master Plan.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The installation of the improvements, including all LID BMPs, will be within the footprint of the Specific Plan Area. The impacts associated with development in the Specific Plan have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a less than significant impact, while in other cases it was determined that development would have a significant and unavoidable impact (i.e., loss of prime farmland). Consistent with the conclusions made throughout this EIR, installation of the water distribution system infrastructure to serve the proposed Project would have a ***significant and unavoidable*** impact.

3.14.4 SOLID WASTE

ENVIRONMENTAL SETTING

Solid Waste service is provided via contract with Gilton Solid Waste Management. Areas outside the Riverbank City limits to the east of are also served by Gilton Solid Waste. Bertolotti Disposal serves the areas within the Riverbank Planning Area that are outside of the City limits to the west. Gilton Solid Waste Management provides: full-scale residential, commercial, and industrial disposal and recycling services; public waste processing and transportation services; comprehensive yard waste and organic material composting and sales; construction and demolition waste processing, diversion and disposal; scrap wood processing, diversion and transportation; and waste tire collection and recycling.

Solid waste collection and disposal is typically a contracted service since private firms are able to service a small community like Riverbank at a more reasonable cost due to the large initial cost associated with the equipment and staffing needed to collect solid waste.

Gilton Solid Waste serves approximately 6,000 residences in the City, spending approximately 86 manhours per week serving these customers. Gilton Solid Waste serves approximately 700 homes per day per truck (via 10-hour days). Therefore, to serve 6,000 customers it takes 8.57 days per week (85.7 hours). Each driver works 40 hours per week, so at one driver per truck, it takes the equivalent of 2.14 trucks to service the City each week.

Annually, Gilton Solid Waste hauls 10,063 tons of waste from Riverbank residential customers, or about 1.68 tons per household. Gilton Solid Waste hauls 2,403 tons of waste from commercial sources and 2,553 tons of waste from industrial and construction sources annually in the City. As the franchise waste hauler, Gilton is contractually obligated to accommodate any increase in the need for residential and commercial waste management services.

Commercial size containers ranging from two cubic yards to six cubic yards are available for commercial trash. Gilton Solid Waste Management also provides commercial compacting bins. The City of Riverbank does not have a sorting facility; however, the solid waste transferred to the Forward Landfill is sorted onsite.

Residential trash is picked up on a weekly basis. Residents may choose which size trash collection toter they want to use (30 gallon or 90 gallon).

Solid waste hauled by Gilton Solid Waste from Riverbank is deposited in two landfills and a waste-to-energy facility. These are the Forward, Inc. landfill in San Joaquin County, the Fink Road Landfill in Stanislaus County (administered by the County Public Works Department), and the Covanta Waste-to-Energy Facility in Stanislaus County (administered by County Department of Environmental Resources). The Covanta Facility was built with an official manufacturer's capacity of 243,000 tons, and the service area is contractually required to send at least this amount to the facility per year. Recently the facility has handled 250,000 to 260,000 tons per year. On March 27, 2020 Stanislaus County approved a Revised Solid Waste Facilities Permit (SWFP) for the Fink Road Landfill, SWIS Number 50-AA-0001. The approval increased the design capacity at the Fink Road

Landfill from 14.64 million cubic feet to 28.29 million cubic feet and extended the estimated closure date from 2023 to 2050.

The two landfills are summarized in Table 3.14-12 below. Table 3.14-13 summarizes the Stanislaus County Regional Solid Waste Planning Agency disposal rate targets, as identified by Cal Recycle. Disposal rate targets for the City of Riverbank are not available.

TABLE 3.14-12: CITY OF RIVERBANK LANDFILL SUMMARY

LANDFILL	*LOCATION*	*MAXIMUM DAILY THROUGHPUT (TONS/DAY)*	*REMAINING CAPACITY (CUBIC YARDS)*	*ANTICIPATED CLOSURE DATE*
Forward Sanitary	Manteca	8,668	24.7 million	2036
Fink Road Landfill	Crows Landing	2,400	7.2 million	2023

SOURCE: CAL RECYCLE, 2021.

TABLE 3.14-13: STANISLAUS COUNTY REGIONAL SOLID WASTE PLANNING AGENCY WASTE DISPOSAL RATE TARGETS (POUNDS/DAY)

RESIDENT		*EMPLOYMENT*	
Target	*Annual*	*Target*	*Annual*
6.3	4.5	21.2	14.4

SOURCE: CAL RECYCLE, 2021.

REGULATORY SETTING

AB 939: California's Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling and composting. In order to achieve this goal, AB 939 requires that each City and County prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 939 also established requirements for cities and counties to develop and implement plans for the safe management of household hazardous wastes. In order to achieve this goal, AB 939 requires that each city and county prepare and submit a Household Hazardous Waste Element.

AB 341 (75 Percent Solid Waste Diversion)

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to divert 75 percent of the solid waste generated in the state from disposal by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012, and also streamlines various regulatory processes.

SB 1374 (Construction and Demolition Waste Materials Diversion)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the CIWMB to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

AB 2176 (Montanez, Chapter 879, Statues of 2004)

This law requires the largest venue facilities and events (as defined) in each city and county to plan and implement solid waste diversion programs, and annually report the progress of those upon the request of their local government. In turn, local jurisdictions must report to the CIWMB waste diversion information for the top 10 percent of venues and events by waste generation.

A large event is defined as:

1. Serves an average of more than 2,000 individuals per day of operation (both people attending the event and those working at it—including volunteers—are included in this number); and
2. Charges an admission price or is run by a local agency.

The bill specifically includes public, nonprofit, or privately-owned parks, parking lots, golf courses, street systems, or other open space when being used for an event, including, but not limited to, a sporting event or a flea market in addition to events that meet both of the above.

A large venue is defined as:

- A permanent facility that annually seats or serves an average of more than 2,000 individuals within the grounds of the facility per day of operation (both people attending the event and those working at it—including volunteers—are included in this number).

Venues include, but are not limited to airports, amphitheaters, amusement parks, aquariums, arenas, conference or civic centers, fairgrounds, museums, halls, horse tracks, performing arts centers, racetracks, stadiums, theaters, zoos, and other public attraction facilities.

California Green Building Standards Code (CALGreen)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

City of Riverbank General Plan

GOAL: LAND USE

- LAND-5. Full Range of Public Services and Facilities for All Area of the Community.

POLICIES: LAND USE

- LAND-5.1. The City will maintain public services and facilities in the existing developed City and make improvements as necessary to maintain a consistent Citywide level of service.
- LAND-5.5. Approved projects, plans, and subdivisions in new growth areas will set aside adequate land for, and shall otherwise accommodate public infrastructure and service needs consistent with General Plan policy.

GOAL: PUBLIC SERVICES AND FACILITIES

- PUBLIC-5. Adequate Capacity for Solid Waste Disposal.

POLICIES: LAND USE

- PUBLIC-5.1. The City will approve new development projects only if adequate capacity exists to accommodate solid waste demand, including processing, recycling, transportation, and disposal.
- PUBLIC-5.5. The City will encourage provision of recycling and conservation service and public education to reduce the amount of solid waste at the landfill.

City of Riverbank Municipal Code, Chapter 50

Chapter 50 of the Municipal Code regulates the management of garbage, recyclables, and other wastes. Chapter 50 sets forth solid waste collection and disposal requirements for residential, commercial, industrial, and other uses and addresses yard waste, hazardous materials, recyclables, and other forms of solid waste.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with Utilities if it will:

- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and/or
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-6: The landfills that would serve the proposed Project have sufficient permitted capacity to accommodate the Project's solid waste disposal needs, and the proposed Project will comply with federal, State, and local statutes and regulations related to solid waste. (Less than Significant)

As previously described, permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The total permitted capacity of the landfill is 59.16 million cubic yards, which is expected to

accommodate an operational life until January 1, 2036. The remaining capacity is 24.7 million cubic yards.

Additionally, permitted maximum disposal at the Fink Road Landfill is 2,440 tons per day. The total permitted capacity of the landfill is 28.29 million cubic feet with an estimated closure date of 2050.

Solid waste generated by the proposed Project was estimated based on CalRecycle generation rate estimates by use (discussed below).

The Mixed Use areas are estimated to generate roughly 2.5 pounds per day per 1,000 square feet. It is estimated that the 875,000 square feet of commercial space would generate 2,187.5 pounds per day of solid waste. It is noted that this estimate of the square footage for the commercial space is considered a worst-case scenario and may very well prove to be an overestimate.

Typical single-family residential (Low Density) is estimated to generate roughly 10 pounds per day per household. It is estimated that the proposed 1,550 single-family residential units would generate 15,500 pounds per day of solid waste. However, it is noted that the people per household is lower in active adult communities, and this solid waste estimate is likely an overestimate.

Typical multi-family residential (Medium and High Density) is estimated to generate roughly 5.31 pounds per day per household. It is estimated that the proposed 1,332 multi-family residential units would generate 7,072.9 pounds per day of solid waste. Again, it is noted that the people per household is lower in active adult communities, and this solid waste estimate is likely an overestimate.

The total solid waste generated by the proposed project is estimated to be 24,760.4 pounds per day (12.38 tons per day). As previously described, solid waste generated in the City is disposed at the Forward Landfill and the Fink Road Landfill. The Stanislaus County Regional Solid Waste Planning Agency's solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City and County.

The addition of solid waste associated with the proposed Project, approximately 12.38 tons per day at total buildout, to the Forward Landfill and the Fink Road Landfill would not exceed the landfills' remaining capacity. The Project would increase the local waste stream, and could require the City to invest in additional resources for the collection and disposal of solid waste.

Development fees would address all capital facilities costs created by new development, and General Plan polices are in place to ensure the provision of adequate services for current and future populations through the management and collection of development fees as well as the annexation into applicable maintenance districts. Additionally, future residents and businesses resulting from Project development would be required to pay monthly fees for waste collection services. These monthly fees are typically used to fund collection of waste and associated landfill costs. With payment of development fees and monthly waste collection service revenues, solid waste impacts would be ***less than significant***.

The California Environmental Quality Act (CEQA) requires an Environmental Impact Report (EIR) to evaluate a project's effects in relationship to broader changes occurring, or that are reasonably foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents a discussion of CEQA-mandated analysis for cumulative impacts, significant irreversible effects, and significant and unavoidable impacts associated with the proposed Project.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the proposed Project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" is defined in CEQA Guidelines section 15065(a)(3) as meaning that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (as described in Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> *…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

   (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

   (B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

The cumulative setting uses growth projections listed in the General Plan, Municipal Services Review, other planning documents, and Department of Finance statistics. Table 4.0-1 shows growth projections for the City, County, and State.

TABLE 4.0-1: GROWTH PROJECTIONS

CALENDAR YEAR	*ESTIMATED POPULATION (RIVERBANK)*	*ESTIMATED POPULATION (STANISLAUS COUNTY)*	*ESTIMATED POPULATION (CALIFORNIA)*
2015	26,264	540,853	38,896,969
2020	29,678	589,156	40,619,346
2025	33,536	674,859	42,373,301
2030	37,896	759,027	44,085,600
2035	42,822	861,984	45,747,645
2040	48,389	953,580	47,233,240

SOURCE: CITY OF RIVERBANK HOUSING ELEMENT (2016).

In addition to those cumulative growth projections listed above, this EIR uses a list of probable future projects within the City of Riverbank to consider cumulative growth specifically in the Riverbank area. Development projects were identified by the City of Riverbank staff for the cumulative list of projects. The projects include:

1. Diamond Bar East – This project has a subdivision improvement agreement and final map. They will have 85 new homes and are currently working on the infrastructure.
2. The Heritage – The builder is currently working on their Subdivision Improvement Agreement and Final Map and anticipates to start building their 64 homes by summer 2023.
3. Bruin Heights – This project is in the final stages of finishing a 50-home project.
4. Countryside I – This project recently finished their 49 homes occupied.
5. Countryside II – Infrastructure is complete on this 40-home project, with approximately 25% of the homes constructed.
6. Countryside III – This project has an approved Subdivision Improvement Agreement and a pending Final Map for 22 lots. It is anticipated that construction will start this summer.
7. The Enclave – This project has an approved tentative map for 18 lots.
8. Ward Villas (center of town) – This project has all entitlements and infrastructure in for 28 units of housing.
9. Diamond Bar 3 – This project has a tentative map application for 36 homes.

CUMULATIVE EFFECTS OF THE PROJECT

Cumulative settings are identified under each cumulative impact analysis. Cumulative settings vary because the area that the impact may affect is different. For example, noise impacts generally only impact the local surrounding area because noise travels a relatively short distance, while air quality impacts affect the whole air basin as wind currents control air flow and are not generally affected by natural or manmade barriers which would affect noise. Cumulative proposed Project impacts are addressed and summarized below.

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. State CEQA Guidelines 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines 15130[b]).

There are two approaches to identifying cumulative projects and the associated impacts. The list approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The projection approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative impacts. This EIR uses a combination of the list approach and the projection approach for the cumulative analysis and considers the development anticipated to occur upon buildout of the various General Plans in the area in addition to the pending projects in the area.

Project Assumptions

The proposed Project's contribution to environmental impacts under cumulative conditions is based on full buildout of the Specific Plan Area. See Chapter 2.0, Project Description, for a complete description of the proposed Project.

Cumulative Impacts

Some cumulative impacts for issue areas are not quantifiable and are therefore discussed in general terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic, utilities, noise, and air quality (the latter two of which are associated with traffic volumes), which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed Project may result in the following cumulative impacts.

AESTHETICS AND VISUAL RESOURCES

The cumulative setting for aesthetics is the City of Riverbank and surrounding areas of Stanislaus County.

Impact 4.1: Cumulative Damage to Scenic Resources within a State Scenic Highway (Less than Significant and Less than Cumulatively Considerable)

As described in Section 3.1, Aesthetics and Visual Resources, there are no designated State Scenic Highways in the vicinity of the Specific Plan Area. Only one highway section in Stanislaus County is listed as a Designated Scenic Highway by the California Department of Transportation (Caltrans) Scenic Highway Mapping System; the segment of Interstate 5 (I-5) from the San Joaquin to Merced County lines. Views from this route are primarily agricultural with distant views of the Coast Range. The City of Riverbank and the Specific Plan Area are not visible from this roadway segment. As identified in the Stanislaus County General Plan Draft EIR, designated scenic corridors, trails, or rivers are not located in the County study area. Additionally, there are no "eligible" highway segments in the Project vicinity that may be included in the State Scenic Highway system.

Cumulative development in the City would not impact a Designated Scenic Highway. Thus, cumulative impacts related to damage to scenic resources within a State Scenic Highway are less than significant, and the proposed Project's impact is ***less than cumulatively considerable***.

Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region (Cumulatively Considerable and Significant and Unavoidable)

As described in Section 3.1, implementation of the proposed Project would convert the Specific Plan Area from its existing agricultural character to a developed commercial and residential area with various buildings, landscaping, parks, and parking areas. Project implementation would alter the existing visual character of the Specific Plan Area. Implementation of the proposed development standards and consistency with the General Plan and the Riverbank Zoning Ordinance would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the Specific Plan Area would be significant and unavoidable.

Under cumulative conditions, buildout of the General Plan for Riverbank and the surrounding jurisdictions could result in changes to the visual character and quality of the City of Riverbank through development of undeveloped areas and/or changes to the character of existing communities. Development of the proposed Project, in addition to other future projects in the area, would change the existing visual and scenic qualities of the City. There are no mitigation measures that could reduce this impact while also achieving the Project objectives. For these reasons, cumulative impacts on the visual character of the region are significant, and the proposed Project's contribution thereto is a ***cumulatively considerable*** and ***significant and unavoidable*** impact.

Impact 4.3: Cumulative Impact on Light and Glare (Less than Significant and Less than Cumulatively Considerable)

Implementation of the lighting plan required by the City's development standards would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly

impact views of the night sky. Adherence to the development standards and the subsequent design review of future projects within the Specific Plan Area would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. Future projects within Riverbank would be subject to the light and glare standards established by the City of Riverbank. These regulations are designed to minimize potential light and glare impacts of new development. Implementation of these regulations would ensure that future projects minimize their potential light and glare impacts resulting in a ***less than significant*** cumulative impact relative to this environmental topic. For these reasons, cumulative impacts on nighttime lighting and daytime glare are less than significant, and the proposed Project's impact is ***less than cumulatively considerable*****.** No mitigation is required.

AGRICULTURAL RESOURCES

The cumulative setting for agricultural resources is all of Stanislaus County. Over the past approximately 15 years, agricultural land throughout the County has changed uses. These changes include changing from one agricultural use to another, or changing from an agricultural use to a developed, urban use. For example, approximately 30,000 to 35,000 acres of land within the eastern and western portions of the County have been converted from grazing land to permanent cropland over the last couple of decades.[1]

Stanislaus County contains approximately 3,621 farms with an average farm size of approximately 200 acres. According to the Department of Conservation, approximately 2,733 acres of Prime Farmland in Stanislaus County were developed for other uses between 2016 and 2018, resulting in an existing total of 249,967 acres of Prime Farmland (26 percent of agricultural land). The remaining agricultural land in the County is comprised of Farmland of Statewide Importance (3.4 percent), Unique Farmland (12.0 percent), Farmland of Local Importance (2.7 percent), and Grazing Land (41.7 percent).

Impact 4.4: Cumulative Impact on Agricultural Resources (Cumulatively Considerable and Significant and Unavoidable)

As described in Section 3.2, Agricultural Resources, development of the proposed Project would result in a conversion of 661.33 acres of Prime Farmland, 165.80 acres of Farmland of Statewide Importance, and 27.16 acres of Unique Farmland as shown on the map prepared under the Farmland Mapping and Monitoring Program (FMMP), to nonagricultural uses. The loss of Important Farmland as classified under the FMMP is considered a potentially significant environmental impact. Development under the Specific Plan inherently involves the conversion of high-quality agricultural land. Mitigation Measure 3.2-1 requires the Project applicant to conserve farmland of equal value to the land that will be converted at a 1:1 ratio, in perpetuity, or pay in-lieu fees that would functionally achieve the conservation intent. Mitigation Measure 3.2-2 requires participation in the City's Sustainable Agricultural Strategy. While the implementation of these mitigation measures

[1] Personal communication between Elise Carroll, associate planner for De Novo Planning Group, and Tom Orvis, Governmental Affairs for the Stanislaus County Farm Bureau. February 20, 2018.

would assist in preserving farmland, the proposed Project would still result in the permanent conversion and loss of 854.29 acres of Important Farmland within Stanislaus County.

The Project Area includes existing Williamson Act Contracts. The Williamson Act parcels within the SOI, but outside the Specific Plan Area, would have no potential for conflict because they are not proposed for development. These parcels would continue to operate under their existing contracts. The two Williamson Act parcels within the Specific Plan Area would become null and avoid pursuant to Government Code section 51243.5 upon Stanislaus LAFCo's approval of the proposed annexation of the Specific Plan Area into the City of Riverbank, due to LAFCo's 1978 adoption of Resolution 76-2397, which upheld the City's protests against those contracts. That statute as it read at the time, and as it reads now, allowed such contracts to remain in force and in effect while the affected properties remained in the County unincorporated area, but permitted protests by potential annexing cities that, if upheld by LAFCo, would cause such contracts to become null and void at the time of annexation.

The Project Area is currently within the jurisdiction of Stanislaus County. The County zoning for the Project Area is General Agriculture 40 Acre (A-2-40). The A-2-40 zone supports and enhances agriculture as the predominant land use in the unincorporated areas of the County. These district regulations are also intended to protect open-space lands pursuant to Government Code Section 65910. Development of the Specific Plan Area to urban uses has been anticipated by the City since the approval of the General Plan and certification of the General Plan EIR. Stanislaus LAFCo will require the Specific Plan Area to be pre-zoned by the City of Riverbank in conjunction with the proposed annexation. The City's pre-zoning will include the City's Specific Plan (SP) zoning designation. The pre-zoning would go into effect upon annexation into the City of Riverbank. All other areas within the Project Area, but outside the Specific Plan Area, would maintain their existing County zoning A-2-40. The requested entitlements are designed to ensure that all land uses are zoned for consistency with their planned uses. This means that all land that would be annexed into the City of Riverbank would have zoning aligned to planned urban development, while all land outside the city limits would maintain their agricultural zoning. While the requested entitlements would result in a loss of agricultural zoning, approval of the entitlements would ensure that there are no conflicts with agricultural zoning.

For the reasons discussed above, cumulative impacts related to agricultural resources would be significant, and the proposed Project's contribution to those impacts would be ***cumulatively considerable*** and ***significant and unavoidable***.

AIR QUALITY

The cumulative setting for air quality impacts is the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south.

Impact 4.5: Cumulative Impact on the Region's Air Quality (Less than Significant and Less than Cumulatively Considerable)

Under buildout conditions in Stanislaus County, the SJVAB would continue to experience increases in criteria pollutants. Stanislaus County has a State designation Attainment or Unclassified for all criteria pollutants except for ozone, respirable particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$). Stanislaus County has a national designation of either Unclassified or Attainment for all criteria pollutants except for Ozone and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the State and Federal attainment status for Stanislaus County.

As discussed under Impact 3.3-1 in Section 3.3, Air Quality, the proposed Project would result in increased emissions. The San Joaquin Valley Air Pollution Control District (SJVAPCD) has established operations related emissions thresholds of significance and it was determined that annual emissions of reactive organic gases (ROG), nitrogen oxides (NO_X), and PM_{10} exceed the SJVAPCD thresholds of significance. The proposed Project would be required to implement Mitigation Measure 3.3-1, which would ensure that individual Projects within the footprint of the proposed Project would reduce emissions to less than the applicable SJVAPCD thresholds of significance.

The proposed Project is subject to the SJVAPCD Rule 9510 (Indirect Source Rule [ISR]), which could result in substantial mitigation of NO_X and associated ROG emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through Project mitigation commitments. The current fees are $9,350 per ton of NO_X. The actual calculations will be determined and finalized by the SJVAPCD and Project applicants as individual projects are brought forward for approval under Rule 9510.

After implementation of Mitigation Measure 3.3-1, the individual development projects within the Plan Area would be required to reduce the criteria pollutant emissions for each individual project to below the SJVAPCD criteria pollutant thresholds. Moreover, after implementation of Mitigation Measure 3.3-2, if an individual development project within the proposed Project is shown to exceed 100 pounds of emissions for any pollutant, the project applicant is required to develop an AAQA. Lastly, Mitigation Measure 3.3-3 identifies that the project applicant for each individual development project would also need to prepare and submit a Rule 9501 Indirect Source Review Application that meets all applicable SJVAPCD requirements, if required. Therefore, with implementation of the mitigation measures provided herein, the level of significance after mitigation for this impact is considered to be a ***less than cumulatively considerable*** contribution.

BIOLOGICAL RESOURCES

The cumulative setting for biological resources includes the Specific Plan Area and the greater Stanislaus County region. Development associated with implementation of the local General Plan(s) would contribute to the ongoing loss of natural and agricultural lands in Stanislaus County, including the Specific Plan Area. Cumulative development would result in the conversion of existing habitat to urban uses. The local General Plan(s), in addition to regional, State, and federal regulations,

includes policies and measures that mitigate impacts to biological resources associated with General Plan buildout.

Impact 4.6: Cumulative Loss of Biological Resources Including Habitats and Special-Status Species (Less than Significant and Less than Cumulatively Considerable)

Under cumulative conditions, buildout of the General Plan(s) within Stanislaus County will result in impacts to biological resources in the cumulative area through new and existing development. The General Plan(s) includes policies that are designed to minimize impacts to the extent feasible.

As described in Section 3.4, Biological Resources, construction in the Specific Plan Area has the potential to result in impacts to special-status species in the region. The Specific Plan Area provides potential habitat for several species, including those discussed in Section 3.4.

Mitigation Measure 3.4-1 through 3.4-5 requires the Project applicant to conduct preconstruction surveys and avoid or minimize impacts to a variety of special status species including valley elderberry longhorn beetle, western pond turtle, giant garter snake, western burrowing owl and Swainson's hawk. As part of these measures, compensatory mitigation for the permanent loss of Swainson's hawk foraging habitat would be provided. See Mitigation Measures 3.4-1 through 3.4-7 for more detailed information.

Additionally, there are three categories of aquatic resources located within the Project Area. This includes the following: 1) the Stanislaus River, which is a natural riverine habitat (6.94 acres); 2) Modesto Irrigation District facilities, which is a manmade agricultural irrigation distribution facility (6.48 acres); and 3) Agricultural Ditch, which is a ditch that drains runoff from the agricultural fields in the lower portion of the Specific Plan Area (15.22 acres). In addition to these aquatic features, there is a 52.02-acre riparian area located along the Stanislaus River. The Stanislaus River, riparian area, and MID facilities will not be directly affected, and do not require permitting. The network of agricultural ditches is all anticipated to be deemed non-jurisdictional, although the final jurisdictional determination is made by the regulatory agencies during a consultation and/or permit process. If construction activities would disturb the agricultural ditch within the Project Area, the property owner/applicant proposing the activity would verify with federal and state regulators that the facility is non-jurisdictional or qualifies under the agricultural ditch exemption. This is required by Mitigation Measure 3.4-8.

All biological resources impacts were determined to be less-than-significant or less-than-significant with mitigation. The Project would result in impacts to biological resources including habitats and special status species. Development of the proposed Project would eliminate opportunities for movement habitat through the Specific Plan Area, along with any upland habitat adjacent to the movement corridors. The City has evaluated urban development in the eastern half of the Plan Area through the General Plan process, and subsequently determined that urban development in this location is appropriate. The proposed project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Stanislaus County), would not be expected to cause significant cumulative impacts. The proposed project would have cumulatively considerable impacts associated with biological resources, but mitigation

has been presented that would reduce any cumulative impact to a less than significant level. As such, impacts related to biological resources would result in a ***less than cumulatively considerable*** contribution.

CULTURAL AND TRIBAL RESOURCES

The geography of cultural and tribal resources impacts can be defined by region, by political subdivision, or by the geography of the cultural resources present in an area, where sufficient inventory data is available to define it. The cumulative setting for cultural and tribal resources includes all of Stanislaus County. There are extensive cultural sites located in the region.

Impact 4.7: Cumulative Impacts on Known and Undiscovered Cultural and Tribal Resources (Less than Significant and Less than Cumulatively Considerable)

Cumulative development anticipated in the City of Riverbank, including growth projected by adopted future projects, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. As discussed in Section 3.5, Cultural and Tribal Resources, there are two significant prehistoric period resources within the Berghill Boundary area: ML-20-02 and ML-20-03, that may contain information related to the prehistoric use and occupancy of the sites. Mitigation Measure 3.5-1 addresses the potential impacts to these two significant prehistoric period resources.

Any previously unknown cultural and/or tribal resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources in the region.

All future projects in the regional vicinity would be subject to the General Plan, which has policies and measures that are designed to ensure protection of undiscovered cultural resources. Additionally, Mitigation Measure 3.5-2 provides methods by which any such future discovered subsurface resources can be analyzed before they are potentially destroyed. In some circumstances, such resources could be preserved in place, thereby ensuring that there are no substantial adverse changes in the attributes that make those resources qualify as unique archaeological resources, historical resources of an archaeological nature, or tribal cultural resources. As to all such resources, Mitigation Measure 3.5-2 will render any potentially significant effects ***less than significant*** relative to this environmental topic. As such, impacts related to cultural and tribal resources would result in a ***less than cumulatively considerable*** contribution.

GEOLOGY AND SOILS

Impacts related to geology and soils are not inherently cumulative. Geology and soils concerns are related to risks, hazards or development constraints that are largely site-specific. However, seismic hazards are regional, and management of seismic hazards is vested with the local planning and

building authority. For these reasons, the potential for cumulative geology and soils impacts are considered in the context of the City of Riverbank and vicinity.

Impact 4.8: Cumulative Impact on Geologic and Soils Resources (Less than Significant and Less than Cumulatively Considerable)

As discussed in section 3.6.3 of Chapter 3, the analysis of impacts associated with existing environmental hazards must be informed by case law relevant to that subject matter. As explained in section 3.6.3, "agencies subject to CEQA generally are *not* required to analyze the impact of existing environmental conditions on a project's future users or residents." (*California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, 377, Italics added.) Rather, "ordinary CEQA analysis is concerned with a project's impact on the environment, rather than with the environment's impact on a project and its users or residents." (*Id*. at p. 378.) Even so, "when a proposed project *risks exacerbating* those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment—and not the environment's impact on the project—that compels an evaluation of how future residents or users could be affected by exacerbated conditions." (*Id*. at pp. 377-378, italics added.)

As discussed in Section 3.6, Geology and Soils, implementation of the proposed Project has limited potential for liquefaction, liquefaction induced settlement, and lateral spreading. However, mitigation measures provided in Section 3.6 ensure that this impact will be less than significant. While the City is not within an area known for its seismic activity, there will always be a potential for ground shaking caused by seismic activity anywhere in California, including the Specific Plan Area. Seismic activity could come from a known active fault such as the San Joaquin fault, or any number of other faults in the region. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. Additionally, the City of Riverbank has incorporated numerous policies relative to seismicity to ensure the health and safety of all people. Design in accordance with these standards and policies would ensure that any potential for the proposed Project to exacerbate existing geological hazards would be avoided. Impacts will be less than significant.

Geologic and soils impacts tend to be site-specific and Project-specific. With the mitigation measures presented in Section 3.6, implementation of the proposed Project would not result in increased risks or hazards related to geologic conditions in the cumulative setting area, nor would it result in any off-site or indirect impacts. Implementation of the proposed Project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to geologic and soil resources would result in a ***less than cumulatively considerable*** contribution.

GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY

As the California Supreme Court has reasoned, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself. The challenge for CEQA purposes is to determine whether the impact of the project's emissions of greenhouse gases is cumulatively

considerable, in the sense that 'the incremental effects of [the] individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.'" (*Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, 219.) "'With respect to climate change, an individual project's emissions will most likely not have any appreciable impact on the global problem by themselves, but they will contribute to the significant cumulative impact caused by greenhouse gas emissions from other sources around the globe. The question therefore becomes whether the project's incremental addition of greenhouse gases is "cumulatively considerable" in light of the global problem, and thus significant.'" (*Ibid*.)

The cumulative setting for analysis of greenhouse gas emissions and climate change impacts for this analysis is Stanislaus County, which is the boundary for the California Air Resources Board's regional greenhouse gas emissions reduction targets.

Impact 4.9: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions (Cumulatively Considerable and Significant and Unavoidable)

Greenhouse gas emissions from a single Project will not cause global climate change; however, greenhouse gas emission from multiple projects throughout a region or state could result in a cumulative impact with respect to global climate change.

In California, there has been extensive legislation passed with the goal of reducing greenhouse gas emissions. The legislative goals are as follows: 1) 2000 levels by 2010, 2) 1990 levels by 2020 and 3) 40 percent below the 1990 levels by the year 2030. Executive Orders issued by recent Governors have identified even more aggressive targets: 1) 80 percent below 1990 levels by 2050; and 2) carbon neutrality by 2045. To achieve these goals, the CARB has developed regional greenhouse gas emission reduction targets for the automobile and light truck sectors (the largest single source of greenhouse gas emissions) for 2020 and 2035. The regional greenhouse gas emission reduction targets for each region in California were established by the California Air Resources Board.

As described in Impact 3.7-1 in Section 3.7, to reduce GHG emissions, mitigation strategies have been developed either for the Project as a whole, or for the individual components of the overall Project. Mitigation Measure 3.7-1 provides GHG reduction measures to reduce Project emissions to the maximum extent feasible. However, even with implementation of Mitigation Measures 3.7.1, it cannot be guaranteed that the proposed Project would reduce GHG emissions to full extent needed to ensure that the State GHG reduction targets (such as those under AB 1279) are met.

Mitigation Measure 3.7-1 includes two different categories of measures as described in CalEEMod User Guide. "Quantitative" measure includes those measures that when implemented have a measurable reduction in emissions as reflected in the model outputs, or with separate outside the model calculations. Examples would be the usage of energy efficiency appliances. "Qualitative or Supporting Measures" includes those measures that are not currently quantified by CalEEMod. The CalEEMod User Guide notes that methods for quantifying these measures have not yet been developed, are not fully supported by available research, or require specific details that are difficult

to address under a methodology with general applicability. Although not quantitatively evaluated, qualitative or supporting measures may achieve emissions reductions and co-benefits on their own or may enhance the ability of quantified measures to attain expanded reductions and co-benefits. User-selected qualitative or supporting measures are noted in the CalEEMod output report but are not quantified. The quantified measures, in conjunction with Project features discussed above, are anticipated to reduce GHG emissions by at least approximately 1,762 MT CO2e/year. It is anticipated that the Qualitative or Supporting Measures would provide additional, or co-benefits toward reducing GHG emissions.

However, there are no additional, feasible mitigation measures to reduce Project VMT, which is the main contributor to the Project's carbon emissions. Therefore, the impact related to whether the Project generates greenhouse gas emissions either directly or indirectly that may have a significant impact on the environment would remain ***cumulatively considerable*** and ***significant and unavoidable***.

Overall, the proposed Project generally does not conflict with, and is consistent with, applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of greenhouse gases. Specifically, the Project is generally consistent with the State's long-term climate goals and strategies with the exception of reducing VMT. The analysis includes an assessment of the Project's consistency with the CARB's 2022 Scoping Plan, Air District requirements, and the latest applicable RTP/SCS. This assessment includes a consistency analysis with regulations or requirements adopted to reduce greenhouse gas emissions, and also evaluates Project specific GHG emissions and the extent to which they are able to be reduced by effective mitigation strategies including Project design features and mitigation measures.

For the reasons discussed above, this EIR concludes out of an abundance of caution that the impact related to consistency with the Scoping Plan is ***cumulatively considerable*** and ***significant and unavoidable***. Nevertheless, the Project's carbon reduction features and mitigation measures make the Project consistent with the 2022 RTP/SCS and SJAPCD policies and regulations, and impacts associated with these plans, policies and regulations are **less than significant**.

HAZARDS AND HAZARDOUS MATERIALS

The cumulative context for the analysis of cumulative hazards and human health impacts is Stanislaus County, including all cumulative growth therein, as represented by full implementation of each respective General Plan (i.e., Riverbank, Modesto, and Stanislaus County).

Impact 4.10: Cumulative Impact Related to Hazards and Hazardous Materials (Less than Significant and Less than Cumulatively Considerable)

As discussed in Section 3.8, Hazards and Hazardous Materials, implementation of the proposed Project would not result in any significant impacts related to this environmental topic with the implementation of the mitigation measures provided in Section 3.8.

The proposed Project, in conjunction with cumulative development in the region, would include areas designated for a variety of urban, agricultural, and open space uses as defined by the

applicable General Plan. Cumulative development would include continued operation of, or development of, new facilities as allowed under each land use designation. New development would inevitably increase the use of hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers). Hazard-related impacts tend to be site-specific and Project-specific. The Specific Plan Area is not associated with any existing hazardous materials spills; however, there are numerous areas throughout the County where hazardous conditions are present.

Implementation of the proposed Project would not result in significant increased risks of hazards in the cumulative setting area, nor would it result in any significant off-site or indirect impacts. The same is true of other foreseeable development in the County, which would similarly be bound to comply with strict federal and state laws. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. For these reasons, cumulative impacts associated with hazards and hazardous materials would be ***less than significant***, and the proposed Project would have a ***less than cumulatively considerable*** contribution to this impact.

HYDROLOGY AND WATER QUALITY

Potential cumulative issues associated with surface waters can be addressed on a watershed basis, or in the case of groundwater, in the context of a groundwater basin. Because water resources are highly interconnected, the cumulative setting is based on Stanislaus County which is located in the San Joaquin River Hydrological Region. Cumulative development in this region, including the proposed Project, would impact the water quality and hydrological features of the San Joaquin River Hydrologic Region. The City of Riverbank and much of the surrounding area is located in the Modesto Groundwater Basin. The subbasin lies almost entirely within Stanislaus County. The approximate physical boundaries of the Modesto Groundwater Basin are the Stanislaus, Tuolumne and San Joaquin rivers. The majority of the Project Area is located in the Boscha Lake-Stanislaus River Watershed and Miller Lake Watershed.

Impact 4.11: Cumulative Increases in Peak Stormwater Runoff from the Specific Plan Area (Less than Significant and Less than Cumulatively Considerable)

Implementation of the proposed Project would increase the amount of impervious surfaces in the Specific Plan Area, which could increase peak stormwater runoff rates and volumes on and downstream of the Specific Plan Area. However, the proposed Project includes an extensive system of on-site stormwater collection facilities to accommodate the increased stormwater flows that would originate in the Specific Plan Area.

The proposed stormwater collection system functions through storm drainage collection, treatment, detention, and discharge. The exact sizing of the underground piping and basin will be engineered during the preparation of the improvement plans. The Project proposes an on-site drainage system to collect the developed condition runoff in a combination of underground pipes and surface vegetated swales and then discharge the runoff into the three proposed major storm water detention basins. The dual use detention ponds have been designed with surface areas and volumes in compliance with City standards. The same is true of other foreseeable development in the County, which would similarly be bound to comply with strict federal, state, and local laws and regulations. For example, present and probable future development projects in the City would be required to comply with the City's stormwater runoff regulations, including but not limited to those found in the City's Post-Construction Standards Plan, and Municipal Code. With the design and construction of improvements included in the proposed storm drainage system, the proposed Project would not increase peak stormwater runoff. The proposed Project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Stanislaus County), would not be expected to cause any significant cumulative impacts given that mitigation measures would control peak stormwater runoff. The proposed Project would not have cumulatively considerable impacts associated with stormwater runoff. Overall, implementation of the proposed project would have a ***less than significant*** and ***less than cumulatively considerable*** contribution to stormwater runoff.

Impact 4.12: Cumulative Impacts Related to Degradation of Water Quality (Less than Significant and Less than Cumulatively Considerable)

The proposed Project, along with several of the related projects within the City of Riverbank, would ultimately discharge stormwater runoff to on-site detention basins, the City's system of MID Laterals, the Stanislaus River, or the groundwater basin. This would potentially degrade the water quality of the system. In the regional vicinity of the Project Area, Stanislaus River (Lower) and Dry Creek (tributary to Tuolumne River at Modesto, E Stanislaus County) are listed as Category 5 waterbodies. The criteria for a Category 5 waterbody include a water segment where standards are not met and a TMDL is required, but not yet completed, for at least one of the pollutants being listed for this segment. The Stanislaus River (Lower) assessed waterbody includes 59 acres listed as early as 1998 for Chlorpyrifos (Agriculture, Urban Runoff/Storm Sewers), Diazinon (Agriculture, Urban Runoff/Storm Sewers), Group A Pesticides (Agriculture), Mercury (Resource Extraction), Temperature, water (Source Unknown), and Unknown Toxicity (Source Unknown). The Dry Creek (tributary to Tuolumne River at Modesto, E Stanislaus County) assessed waterbody includes 34 acres listed as early as 2010 for Chlorpyrifos (Agriculture, Urban Runoff/Storm Sewers), Diazinon (Agriculture, Urban Runoff/Storm Sewers), Group A Pesticides (Agriculture), Mercury (Resource Extraction), Temperature, water (Source Unknown), and Unknown Toxicity (Source Unknown).

Construction of the proposed Project would contribute to a cumulative increase in urban pollutant loading, which could adversely affect water quality. Cumulative development in the Riverbank area, including the proposed Project, would also result in increased impervious surfaces that could increase the rate and amount of runoff, thereby potentially adversely affecting existing surface water quality through increased erosion and sedimentation. The primary sources of water pollution

include: runoff from roadways and parking lots; runoff from landscaping areas; non-stormwater connections to the drainage system; accidental spills; and illegal dumping. Runoff from roadway and parking lots could contain oil, grease, and heavy metals; additionally, runoff from landscaped areas could contain elevated concentrations of nutrients, fertilizers, and pesticides.

The proposed Project will be required to comply with Mitigation Measure 3.9-1 which requires the development and approval of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include BMPs to regulate stormwater quality for the Specific Plan Area which will be designed in accordance with the National Pollutant Discharge Elimination System Permit (NPDES) Stormwater Program. The City of Riverbank adopted a Low Impact Development Design and Specifications Manual to assist developers in meeting State and local mandates for storm water drainage. The storm drain system will be designed consistent with the LID requirements of the City of Riverbank. Storm drainage will be provided to the Plan Area through the installation of a storm drain mains, basins, and pump stations. It is anticipated to utilize facilities owned by the Modesto Irrigation District (MID) for storm drainage discharge pending an agreement with MID. If discharge agreements with MID cannot not be executed, stormwater will need to be retained within the basins and infiltrated into the subsurface soils by using infiltration trenches, or horizontal drains ("French drains"). As an alternative, the project may utilize the 63 acre +/- reserve area as shallow flood storage to contain and infiltrate stormwater runoff from the project. Land planning for the Specific Plan and the preliminary drainage design are integrated to emphasize water conservation, protect water quality, help reduce flooding, and improve the overall watershed health. The proposed low impact development (LID) practices are appropriate for the local and existing conditions found in the Specific Plan Area.

While the Project Area's soils have a range of low to high infiltration rates, much of the groundwater recharge in the basin occurs from irrigation followed by precipitation. Precipitation in the region is 13.81 inches, most of which falls between November through April. A portion of this annual rainfall infiltrates the soil and groundwater basin, while a portion is discharged downstream into MID discharge points. Additionally, assuming no recharge, the anticipated groundwater requirements would amount to less than 0.2 percent of the total amount of subbasin groundwater storage and less than 5 percent of the total annual basin recharge. While there are no assurances that other projects in the County would incorporate the same degree or methods of treatment as the proposed Project, several of the projects within the City of Riverbank would phase out existing agricultural runoff discharges from their respective sites and, similar to the proposed Project, could provide some level of water quality improvement. Also, each related Project that would discharge stormwater runoff would be required to comply with NPDES discharge permits from the Regional Water Quality Control Board (RWQCB), which adjusts requirements on a case-by-case basis to avoid significant degradation of water quality.

Compliance with City and County water quality protection regulations, approval from the RWQCB, and Mitigation Measure 3.9-1 would ensure that the proposed Project minimizes impacts to surface water quality. Additionally, the Specific Plan will conform to and utilize the LID practices set forth by the City of Riverbank.

Nevertheless, because the Stanislaus River is a Category 5 impaired water body, cumulative impacts relating to water quality degradation as a result of past, present, and probable future projects will be ***potentially significant***. However, because much of the proposed Project is designated for urban development by the City's General Plan, and the proposed Project includes an extensive network of water quality control measures, the proposed Project's incremental contribution to this cumulative impact will be ***less than cumulatively considerable***.

Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge (Less than Significant and Less than Cumulatively Considerable)

The proposed Project would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

The Project Area has soils with hydrologic ratings of "A", "C", and "D". Group "A" soils have low runoff potential when thoroughly wet, Group "C" soils have moderately high runoff potential when thoroughly wet, and Group "D" soils have high runoff potential when thoroughly wet. Development of the Project Area with impervious surfaces could reduce rainwater infiltration and groundwater recharge further. The collection of rainwater for those areas of impervious surfaces will be routed into the proposed Project's storm drainage system and eventually flow into the Stanislaus River or other downstream aquatic facilities.

As detailed in the City's 2020 UWMP, the City's groundwater wells are located in the Modesto groundwater subbasin and the City is part of the Stanislaus and Tuolumne Rivers Groundwater Basin Association and was a part of the development of the Groundwater Sustainability Plan (GSP) for the Modesto Subbasin in 2022. Based on the GSP for the Modesto Subbasin, and various groundwater investigations performed on groundwater availability in the subbasin, including the Self-Certification of Supply Reliability for Three Additional Years of Drought (as required by the State Water Resources Control Board in 2016), the City's groundwater supplies are expected to be highly reliable.

As detailed in the GSP, the Sustainability Goal of the Modesto Subbasin GSP is to provide a sustainable groundwater supply for the local community and for the economic vitality of the region. Groundwater levels, storage volume, and quality will be actively managed by the STRGBA GSA to:

- Operate the Subbasin within its sustainable yield to support beneficial uses including municipal, domestic, agricultural, industrial, and environmental;
- Maintain a reliable, accessible, and high-quality groundwater supply, especially during droughts;
- Manage groundwater levels such that beneficial uses of interconnected surface water are not adversely impacted by groundwater extractions;
- Optimize conjunctive management of local surface water and groundwater resources;
- Avoid adverse impacts from future potential land subsidence associated with groundwater level declines;

- Cooperate and coordinate with GSAs in neighboring subbasins to avoid undesirable results along the shared Subbasin boundaries.

This goal will be achieved within the 20-year implementation period and maintained throughout the planning horizon through a robust monitoring program and a series of projects and management actions that involve groundwater recharge, in lieu surface water use, conservation, stormwater management, and other strategies to be developed and modified over time through adaptive management.

To achieve the sustainability goals for the Modesto Subbasin by 2042, and to avoid undesirable results over the remainder of a 50-year planning horizon, as required by SGMA regulations, multiple Projects and Management Actions (PMAs) have been identified and considered by the Modesto Subbasin Groundwater Sustainability Agencies (GSAs) in this GSP.

Further, according to California's Groundwater Bulletin 118, 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 310,000AF, 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.

The Proposed Project would be required to build new municipal water wells to increase capacity of available water. The new wells associated with the Proposed Project are only conceptual as of April 2022 as the WSA was prepared. The proposed wells to be constructed with the RWSP will be sufficient to supply the needs of the Proposed Project. The connection to the City system is intended to provide some initial development in advance of constructing a well site, as well as to provide some system redundancy and reliability. However, this does not mean that the RWSP wells will only supply the proposed RWSP project. There will be some flow from the Proposed Project wells that is distributed to the rest of the City system.

As detailed in the 2020 UWMP, the City's groundwater wells are located in the Modesto groundwater subbasin and the City is part of the STRGBA GSA. The Modesto Subbasin GSP accounted for expected population growth in the City of Riverbank to approximately 52,500 by 2025, based on the 2005-2025 General Plan adopted in 2009, which is much higher than the more recent population projections which project a population of only 30,549 by 2040. Even with the large population growth assumed in the GSP, the City's groundwater supplies are expected to be highly reliable for

serving a future development such as the Proposed Project. The GSP identifies that the subbasin declining water levels are occurring primarily in the eastern Subbasin – not the central Subbasin where the City is located. Furthermore, many mitigation measures are presented in the GSP to ensure long-term sustainability of the Modesto Subbasin and will be implemented over the coming years. One of the specific policies mentioned in the GSP that the City of Riverbank will implement, to achieve its goal of adequately supplying quality water to serve existing and future project development needs, is: "new developments shall incorporate water conservation techniques to reduce water demand in new growth areas, including the use of reclaimed water for landscaping and irrigation". While water conservation measures and use of reclaimed water for landscaping and irrigation use, where possible, will help reduce overall demand, even without these measures, the groundwater availability in Riverbank is expected to be adequate to serve the expected demand from the proposed Project.

While the Project Area's soils have a range of low to high infiltration rates, much of the groundwater recharge in the basin occurs from irrigation followed by precipitation. Precipitation in the region is 13.81 inches, most of which falls between November through April. A portion of this annual rainfall infiltrates the soil and groundwater basin, while a portion is discharged downstream into MID discharge points. Additionally, assuming no recharge, the anticipated groundwater requirements would amount to less than 0.2 percent of the total amount of subbasin groundwater storage and less than 5 percent of the total annual basin recharge.

Much of the Project Area would be maintained as pervious surface. Additionally, the front and back yard areas of the proposed residential uses could maintain groundwater recharge areas. While the proposed Project would reduce the amount of pervious surfaces within the Project Area, much of Project Area would be converted to impervious surface. This would result in opportunities for groundwater recharge after the Project Area is fully developed.

For the reasons mentioned above, the GSP should ensure that the cumulative impacts of the proposed Project, together with other past, present, and probable future projects within the Modesto Subbasin, would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge. Such cumulative impacts, then, would be ***less than significant***. Implementation of the proposed Project would have a ***less than cumulatively considerable*** incremental impact relative to this topic.

Impact 4.14: Cumulative Impacts Related to Flooding (Less than Significant and Less than Cumulatively Considerable)

As shown on Figure 3.9-2, portions of the Berghill property are within the 100-year flood zone as delineated by FEMA, notably along the Stanislaus River at the north project boundary and along the agricultural ditch at the western boundary of the Berghill property. Additionally, the majority of the land within the Berghill boundary is currently located in the 500-year flood zone. The remainder of the Project Area is located in Zone X. Zone X by definition indicates an area protected by levees from the 1% annual chance flood. The land in Zone X is found within the highland area in the southwestern and southern portions of the Project Area.

The Project Area is outside the 200-year flood plain and therefore, will not be subject to the additional requirements of the central Valley 200-year Flood Zones. However, pursuant to the City Municipal Code, the proposed Project would be required to comply with regulations contained in Chapter 151 Flood Plain Management of the City Municipal Code.

The portions of the Project Area that lie within the 100-year flood zone on the north and east side of the levee are not proposed for development of housing or other human occupied structures. The portions of the Project Area that lie within the 100-year flood zone on the west side of the levee are largely associated with the agricultural ditch.

While FEMA shows the 100-year flood plain in several areas along the agricultural ditch, topographical surveys, hydrology models, and a review of historical aerials shows that this area does not qualify as 100-year flood plain under its current condition. Nevertheless, any development in the areas designated by FEMA as 100-year flood plain would require a Letter of Map Revision (LOMR) before development would be allowed. A LOMR is a document that officially revises a portion of the effective FEMA Flood Insurance Rate Map (FIRM) map according to requirements and procedures outlined in the National Flood Insurance Program (NFIP) regulations. A LOMR allows FEMA to revise flood hazard information on a FIRM map via letter without physically revising and reprinting the entire map panel.

Much of the Berghill property lies within the 500-year floodplain, which is planned to be developed with residential and mixed uses. Local flooding can occur for events larger than a two-year event, but runoff is generally contained in the streets or other breakover easements. Changes to land surfaces in these areas do not trigger map revisions and no flood insurance requirements are imposed on structures in these areas. Improvements to storm drainage facilities are accomplished either as a part of privately funded on-site developments or as a part of the Specific Plan, funded by drainage fees.

The proposed development, including water quality BMPs and detention basins, is designed to minimize or eliminate increases in runoff from these new impervious surfaces entering surface water courses and storm drains. The proposed Project would be required to comply with the revised City floodplain regulations contained in Chapter 151 of the City Municipal Code. These standards include the requirement that all new construction and substantial improvements of structures are adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads; that all new construction and substantial improvements of structures are constructed with flood resistant materials and utility equipment resistant to flood damage; use methods and practices that minimize flood damage; and all new construction or substantial improvements of structures be elevated to or above the base flood elevation.

Future development projects in the area could result in additional discharges of stormwater during storm events. When combined, these future development projects could, in theory, lead to an incremental increase in peak stormwater runoff, and potential incremental increases in downstream flood elevations. However, in order to ensure that future development projects in Stanislaus County do not increase downstream flood elevations, the County provides restrictions and regulations (see

Chapter 16.50 of the County Municipal Code) that govern the use of floodplains, to include development in the floodplain, issuing of development permits, and reviewing of subdivision proposals to ensure the project is safe from flooding and provides for adequate drainage.

Future development within the City of Riverbank must be sited and designed in accordance with the aforementioned City flood damage regulations (i.e., Chapter 151 of the City Municipal Code and/or Chapter 16.50 of the County Municipal Code). The proposed Project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Stanislaus County), would not be expected to cause any significant cumulative impacts given that mitigation measures for new development projects require designs that ensure structures are outside the base flood elevation and that storm water flows are maintained to prevent downstream flooding.

Through compliance with these existing regulations, implementation of the proposed Project would have a ***less than significant*** cumulative impact relative to this environmental topic. Implementation of the proposed Project would have a ***less than cumulatively considerable*** contribution to the potential for impacts related to flooding.

LAND USE, POPULATION, AND HOUSING

The cumulative setting for land use and population impacts is the City of Riverbank.

Impact 4.15: Cumulative Impact on Communities and Local Land Uses (Less than Significant and Less than Cumulatively Considerable)

Cumulative land use impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site- and Project-specific. Prior to Project authorization, City approval of the proposed Project would require approval of a General Plan amendment to change land uses in the Project Area to very specifically fit the design concept.

The City General Plan has designated lands within the Specific Plan Area for development and urban uses on its Land Use Map and as presented in Table 3.10-4. The City General Plan currently designates 319.25 acres for Lower Density Residential uses, 117.00 acres for Medium Density Residential, 17.25 acres for Higher Density Residential uses, and 51.44 acres as Mixed Use. Land uses as designated by the existing General Plan would accommodate approximately 4,702 dwelling units under a maximum density using a gross acreage calculation. Additionally, the General Plan designates land for parks, civic uses, conservation and an open space.

The Specific Plan Land Use Plan is intended to provide for logical growth in the City with a design that emphasizes community form, scale, and identity. The specific location of each land use is illustrated on a land use map and the density and intensity requirements are documented in the text of the document. The land uses as proposed are not consistent with the current General Plan Land Use Map. The Specific Plan would result in a reshuffling of the existing land uses to accommodate various engineering/planning challenges and to create a design pattern for improved form and function. When land uses are not consistent with a General Plan, there are two courses of action: 1) the uses are not allowed due to the inconsistency, or 2) the land uses are changed through an

amendment to the General Plan to create consistency. The proposed Project would require a General Plan Amendment to change land uses in the Project Area. Figure 2.0-7 in Chapter 2.0 illustrates the current General Plan land uses within the Project Area, and Figure 2.0-8 in Chapter 2.0 illustrates the proposed land uses.

The Specific Plan as proposed does not conflict with the goals, policies and objectives of the General Plan, and instead creates an opportunity to establish a land use mix, a pedestrian friendly active adult environment, and amenities unlike any other development in Riverbank, and perhaps the region. The General Plan amendment will also cover refinements to, and relocation of, certain planned roadways identified on the General Plan Circulation Element

The land uses as proposed are not consistent with the General Plan. When land uses are not consistent with a General Plan there are two courses of action: 1) the uses are not allowed due to the inconsistency, or 2) the land uses are changed through an amendment to the General Plan to create consistency. The proposed Project includes a General Plan amendment to change land uses in the Project Area to very specifically fit the design concept. Approval of the General Plan amendment would ensure that the proposed Project would be substantially consistent with the Riverbank General Plan land use requirements and would have a ***less than cumulatively considerable*** impact relative to the Riverbank General Plan. It is noted that consistency with Riverbank General Plan policies and programs related to environmental topics other than land use (aesthetics, agricultural resources, biological resources, cultural resources, geology/soils, hazards, hydrology/water quality, noise, public services, transportation, and utilities) are discussed in the relevant sections of this EIR.

Additionally, the Specific Plan would result in some changes in land use, including changes to residential land uses. The proposed land use changes are largely a reshuffling of the existing land uses to accommodate various engineering challenges (i.e., topography, ingress/egress, etc.), and to create a design pattern for improved form and function. However, the proposed reshuffling of land uses technically involves upzoning/downzoning of residential land which is regulated by Senate Bill (SB) 330. SB 330 freezes the ability of local governments to downzone, adopt new development standards, or change land-use in residential and mixed-use areas if the change results in less-intensive uses. As discussed in Section 3.10, the maximum residential unit count under the proposed Specific Plan is increased from what would be allowed under the existing General Plan. This is consistent with the requirements of SB 330, in that it would result in no net loss of residential capacity for the City.

The Riverbank Zoning Code implements the General Plan. The Specific Plan Area is currently within the jurisdiction of Stanislaus County. The Stanislaus LAFCO will require the Specific Plan Area to be pre-zoned by the City of Riverbank in conjunction with the proposed annexation. The City's pre-zoning will include the Specific Plan (SP) zoning designation. The pre-zoning would go into effect upon annexation into the City of Riverbank. The proposed pre-zoning for the Specific Plan Area is shown on Figure 2.0-9. These proposed zone changes would ensure that zoning would be consistent with the proposed General Plan designation within the Specific Plan Area. Section 153.311 of the City's Zoning Code outlines the required contents of a specific plan proposed for the SP district. The

purpose of the SP district is to provide a vehicle for implementing the City's General Plan on an area specific basis. A specific plan prepared in accordance with the standards set forth in Chapter 153 of the City's Zoning Code is intended to serve as a regulatory document, consistent with the General Plan. In the event of an inconsistency, or conflict between an adopted specific plan and comparable regulations of the Municipal Code, the specific plan will prevail.

The City will review each component of the proposed Project as plans (improvement plans, building plans, site plans, etc.) are submitted for final approval to ensure that they are consistent with the City's Zoning ordinance. Approval of the zone change would ensure that the proposed Project would be consistent with the Zoning Code and will have a ***less than cumulatively considerable*** relative to this topic.

Impact 4.16: Cumulative Impacts on Population and Housing (Less than Significant and Less than Cumulatively Considerable)

Continued development in Stanislaus County will result in housing unit and population increases in the region. Future development according to the land uses identified in the Riverbank General Plan will result in a population growth of approximately 15,016 people in the City between the years of 2010 and 2045.

The Plan Area has been identified in the City of Riverbank's General Plan for future growth, with portions designated for development and portions designated Reserve. The General Plan has designated lands within the Specific Plan Area for development and urban uses on its Land Use Map. The General Plan currently designates 319.25 acres for Lower Density Residential uses, 117.00 acres for Medium Density Residential 17.25 acres for Higher Density Residential uses, and 51.44 acres as Mixed Use. Land uses as designated by the existing General Plan would accommodate approximately 4,702 dwelling units under a maximum density using a gross acreage calculation. Additionally, the General Plan designates land for parks, civic uses, conservation and open space.

Infrastructure needed to support development of the Project area, and the subsequent population, housing and employment increases expected through implementation of the River Walk Specific Plan, have already been planned and evaluated. Additionally, all lands within the General Plan jurisdiction have been planned to accommodate growth within the City have been evaluated in the General Plan FEIR. Under the proposed land use changes, the Specific Plan Area would allow for 5,607residential units at maximum density. This includes 160 Higher Density units, with an additional 450 Higher Density units in the Mixed Use areas, 1,259 Medium Density units, and 3,737 Lower Density units. Based on the design concept, which involves a reshuffling of the residential land uses within the Specific Plan Area, the maximum residential unit count is higher from what would be allowed under the existing General Plan. This is consistent with the requirements of SB 330, in that it would result in no net loss of residential capacity for the City.

As described in Section 3.10, the proposed Project would add residential housing structures in the Specific Plan Area, and would directly increase the population of the City. Twenty-five home sites and a horse ranch exist within the Project Area. The areas outside the Specific Plan Area which contain home sites, but within the SOI boundary, would not be developed under the proposed

Project. Development of the Project would remove some of the housing units onsite, and add up to 2,432 residential units. Therefore, the Project would more than replace the housing that would be removed and would not displace substantial numbers of people or existing housing.

The proposed Project includes a range of density and intensity, which would be anticipated to result in up to 2,432 units. Based on the anticipated number of residential units that will be built in the Project Area (2,432 units), the population would be anticipated to increase by an estimated 5,046 persons. The adopted General Plan designates land uses to ensure a balance between new residential development and jobs-creating uses. As stated in the General Plan Implementation Chapter "*The Riverbank General Plan anticipates large new growth areas northwest, east within current city limits, and southwest of the City*," which include the Specific Plan Area. The City cannot physically grow north because of the Stanislaus River, south because of Modesto's General Plan boundary, nor east because of a commitment to Oakdale to keep green space between the two jurisdictions. The General Plan calls for the development of a Specific Plan to be used to achieve certainty regarding the extent and character of urban development and conservation in these areas, as well as how that future development is provided with public services and utilities. The General Plan assumed that development of the Specific Plan Area would occur and the General Plan has designated lands within the Specific Plan Area for development and urban uses on its Land Use Map. The direct population growth shown in the table above is consistent with planned growth for Riverbank.

While the proposed Project will result in growth, it is not anticipated to significantly induce growth beyond the levels analyzed in the City's General Plan and Housing Element, or displace substantial numbers of housing or people. Implementation of the proposed Project, together with other past, present, and probable future projects, would have a ***less than significant*** cumulative impact relative to this environmental topic. As a result, implementation of the proposed Project would have a ***less than cumulatively considerable*** incremental contribution to cumulative impacts related to population and housing.

NOISE

The cumulative setting for noise impacts consists of the existing and future noise sources that could affect the Specific Plan Area or surrounding uses.

Impact 4.17: Cumulative Exposure of Existing and Future Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development (Significant and Unavoidable and Cumulatively Considerable)

Traffic Noise: Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the proposed Project, including on-site activities resulting from operation of the proposed Project, as well as operational noise from other development projects in the local and regional vicinity. Table 3.11-14 in Section 3.11, Noise, shows cumulative traffic noise levels with and without the proposed Project. The Cumulative conditions account for other pending and future projects in the City, including the Crossroads West Specific Plan. As discussed in Section 3.11, Cumulative conditions, sensitive receptors located adjacent to Coffee Road exceed the City's 60 dB

L_{dn} exterior noise level standard for transportation noise sources. Under Cumulative Plus RWSP conditions, these roadways will continue to exceed the City standards. The Project's contributions range between 1.6 dB and 4.3 dB L_{dn}. These increases exceed the FICON criteria. Table 3.11-15 indicates where significant traffic noise increases will occur, and the segments which the Project would result in an exceedance of the City of Riverbank exterior noise levels standard, under the Cumulative Plus RWSP condition.

Potential mitigation measures would require increasing the height of existing sound walls, building new off-site sound walls, including traffic calming measures to reduce vehicle speeds, and/or using quieter pavement technologies. Generally, construction of new sound walls is not practical due to the openings for driveway accesses which would compromise any barrier effectiveness. Increasing the heights of existing sound walls requires additional engineering of footings and is also not practical. Additionally, City General Plan Policy NOI 1.5 states that "[s]ound walls are prohibited as a method for reducing noise exposure that could be addressed through other means." Sound walls are not feasible or recommended in this case. Traffic calming measures generally have not been found to reduce overall traffic noise levels by a significant amount. The use of quiet pavement technologies is the most practical mitigation measure and would generally reduce traffic noise levels between 3 and 5 dB. Under the Cumulative scenario shown in Table 3.11-15, each roadway segment which shows a significant impact could include future overlays of alternative quiet pavement. However, the implementation of these types of measures along this 2.3-mile roadway segment, which is located within the jurisdiction of Stanislaus County, may not be considered practical due to overall costs and benefits at all locations, as well as jurisdictional considerations. Therefore, this would be a cumulatively ***significant unavoidable*** impact.

Construction Noise: Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. Activities involved in construction would generate maximum noise levels ranging from 82 to 96 dB L_{max} at a distance of 50 feet. Noise would also be generated during the construction phase by increased truck traffic on area roadways. A significant Project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration and would likely occur primarily during daytime hours, consistent with the City's Noise Ordinance.

The proposed project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Stanislaus County), would be expected to cause ***significant and unavoidable*** cumulative construction noise impacts. The proposed Project would have a ***cumulatively considerable*** contribution to this cumulatively considerable impact associated with construction noise.

Cumulative Conclusion: The traffic noise from the proposed Project and other reasonably foreseeable development would produce noise levels that would exceed City standards for existing sensitive receptors. Project related traffic noise level increases would exceed the FICON substantial increase criteria. Consequently, the proposed project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Stanislaus

County), would not be expected to cause any significant cumulative impacts. The proposed project would not have cumulatively considerable impacts associated with noise. Implementation of the proposed project would have a ***less than significant cumulative impact*** and ***less than cumulatively considerable*** incremental contribution to cumulative impacts on noise.

PUBLIC SERVICES AND RECREATION

The cumulative setting would include all areas covered in the service areas of the City of Riverbank, as well as the Sylvan Union, Stanislaus Union, and Modesto City Schools Districts, and the Stanislaus Consolidated Fire Protection District. This geographic area was chosen because these service providers would be required to serve the proposed Project and contains those service providers that have to potential to bear a cumulative impact from the proposed project, when the proposed Project is considered together with all past, present, and probably future projects within these providers' service areas.

Impact 4.18: Cumulative Impact on Public Services and Recreation (Significant and Unavoidable and Less than Cumulatively Considerable)

Under cumulative conditions future local and regional growth will result in increased demand for schools, police protection, fire protection, schools, parks/recreation, and library services. The City and its associated service providers must continue to evaluate the levels of service desired and the funding sources available to meet increases in demand.

The General Plan EIR analyzed impacts to public services (including police protection, fire and emergency services, schools, parks, and libraries), and found that General Plan policies addressed the public services needs of future development resulting from implementation of the General Plan. The specific environmental impact of constructing new facilities could not be determined at the time, but the EIR found that construction and operation of such facilities could potentially cause significant impacts. These potential impacts, however, were addressed and mitigated to the greatest extent feasible by the General Plan policies and mitigation measures included in the EIR.

As noted previously, the Plan Area has been identified in the City of Riverbank's General Plan for future growth, with portions designated for development and portions designated Reserve. The General Plan has designated lands within the Specific Plan Area for development and urban uses on its Land Use Map. The General Plan currently designates 319.25 acres for Lower Density Residential uses, 117.00 acres for Medium Density Residential 17.25 acres for Higher Density Residential uses, and 51.44 acres as Mixed Use. Land uses as designated by the existing General Plan would accommodate approximately 4,702 dwelling units under a maximum density using a gross acreage calculation. Additionally, the General Plan designates land for parks, civic uses, conservation and open space.

Infrastructure needed to support development of the Project area, and the subsequent population, housing and employment increases expected through implementation of the River Walk Specific Plan, have already been planned and evaluated. Additionally, all lands within the General Plan jurisdiction have been planned to accommodate growth within the City have been evaluated in the

General Plan FEIR and the City's Municipal Service Review.

Implementation of the proposed Project would contribute toward an increased demand for public services and facilities within the City of Riverbank. It has been determined that future development of the Specific Plan Area would not directly trigger the need for new facilities for the SCFPD, Stanislaus County Sheriff, Sylvan Union School District, Stanislaus Union School District, or Modesto City Schools. Project implementation would require the construction of park facilities which may cause substantial adverse physical environmental impact. Potential environmental impacts associated with the future construction of park and other recreational facilities within the Specific Plan Area are addressed throughout this EIR. This EIR analyzes the physical environmental effects that may occur as a result of development and introduction of new urban land uses within the Specific Plan Area. Each future park, if constructed, would fall within the range of environmental impacts disclosed in this EIR, and would be subject to relevant mitigation measures included in this EIR. It is noted, however, that development of park land within the Specific Plan Area would contribute to significant and unavoidable impacts as discussed in this EIR. The proposed Project and other past, present, and probable future projects would be subject to all fees that are paid toward the enhancement of public services within the region. Payment of the applicable impact fees by the proposed Project applicant, other project applicants, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project and other past, present, and probable future projects, would assist in maintaining existing fire, police, schools, and park services.

Under cumulative conditions, past, present, and probable future projects would result in increased demand for public services and recreational facilities. The impact fees developed and reviewed by the City will recover future development's proportionate share of City-related capital asset costs. Fees, as applied only to new development, represent future development's proportionate share of public services and facilities capital costs. It is important to note that impact fees may not be used to correct existing deficiencies, but may be used to pay for increased demand for public facilities or increased demand upon existing capital facilities provided that those facilities are needed to serve additional development and have the capacity to do so, given relevant level-of-service standards. The construction of public facilities to serve past, present, and probably future projects may be required, which could cause substantial adverse physical environmental impacts. The construction and operation of future public facilities required to serve cumulative development could potentially cause cumulatively significant impacts, but such physical impacts cannot be fully defined at this time because the exact facilities are not proposed or known. Any future public facility would undergo its own environmental review to determine physical environmental impacts once it is contemplated, and proposed for construction.

Nevertheless, the proposed Project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Stanislaus County), would be expected to cause significant cumulative public services or recreation impacts. As such, cumulative impacts on public services and recreation would be ***significant and unavoidable***. This impact is associated with the development of the parks within the footprint of the Specific Plan Area.

These physical impacts associated with development in the Specific Plan, such as agricultural conversion, etc., have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a significant and unavoidable impact (i.e., loss of prime farmland). The development of parks would contribute to physical impacts, including those that have been determined to be ***cumulatively significant and unavoidable***. The project will be required to implement the mitigation measures under each physical environmental impact identified. The topic does not require separate mitigation.

TRANSPORTATION AND CIRCULATION

This section considers the impacts of the Project within the context of long-term traffic conditions that may accompany the development of regional circulation system improvements and regional residential and non-residential development. See Section 3.13, Transportation and Circulation, for more information.

Impact 4.19: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (Significant and Unavoidable and Cumulatively Considerable)

Because the City of Riverbank has not yet adopted guidelines or policies for dealing with VMT, the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR 2018) provides general direction regarding the methods to be employed and significance criteria to evaluate VMT impacts, absent polices adopted by local agencies. The regional travel demand model employed for both the NCC EIR and the City of Riverbank's previously-approved Crossroads West Specific Plan EIR and that was used to forecast future traffic volumes for this report's traffic operational analysis was also employed to estimate regional VMT.

Table 3.13-5 in Section 3.13 compares total model area VMT under base year and 2042 conditions with and without the proposed Specific Plan. As shown, the residential uses within the proposed Specific Plan generate 75,640 VMT under the base condition, while non-residential uses generate 169,468 VMT. The Specific Plan generates a total of 245,108 VMT.

With regards to residential development, because no relatable forecasts for the City of Riverbank or Stanislaus County are available, it is not possible to determine whether the Specific Plan's residences will generate VMT per capita rate that is 15 percent below the current area average, as required under the OPR directive.

With regards to non-residential uses, the net increase in regional VMT caused by the Specific Plan's non-residential uses is the difference between the overall difference in total regional VMT (195,160 VMT) and the VMT caused by residential uses (74,640 VMT) is 120,520 VMT. This increase exceeds the OPR directive's threshold of no net increase in regional VMT.

Mitigation Measure 3.13-2 in Section 3.13 requires the Project Applicant to implement feasible VMT related mitigation measures / strategies which could reduce the VMT generated by the proposed land uses. Though not all individual VMT reduction measures may be applicable, Mitigation Measure

3.13-2 is considered generally feasible because it is within the applicant's purview to implement and has been found to be effective in peer-reviewed academic studies. However, the precise effectiveness of a given VMT reduction strategy is difficult to accurately measure.

In order for a specific project to have a less than significant impact related to VMT, the project must demonstrate that per capita VMT would be 15 percent below the regional average. Because future development would likely be equal to the regional average, or above average (or less than average but not fully 15 percent less than average), impacts relate to VMT would be ***cumulatively significant***. Exceptions to this would be infill projects, or small projects which include VMT reducing strategies. Due to the size of the Project, the incremental contribution to this cumulative VMT impact would be ***cumulatively considerable***.

Impact 4.20: Under Cumulative conditions, the proposed Project would not adversely affect pedestrian and bicycle facilities (Less than Significant and Less than Cumulatively Considerable)

The proposed Project and the Crossroads West Specific Plan include ample bicycle and pedestrian facilities on-site. Implementation of the proposed Project and past, present, and probable future projects would not result in a conflict with an existing or planned pedestrian facility, bicycle facility, or transit service/facility. The proposed Project, as well as past, present, and probable future projects in the City, would be required to comply with the applicable requirements outlined in the Riverbank General Plan pertaining to bicycle and pedestrian improvements, connectivity, and funding. City General Plan Policy CIRC-1.1 notes that approved plans, projects, and subdivision requests in new growth areas shall include the construction or pro-rata funding of transportation infrastructure that includes a connected and integrated system of bicycle facilities and pedestrian facilities, designed to comply with the Americans with Disabilities Act. Additionally, City General Plan Policy CIRC-1.13 notes that City environmental documents and associated mitigation programs will explicitly consider compact development, mixing of land uses, affordable housing, and other pedestrian, bicycle, and transit-oriented design elements that generate fewer vehicle trips. Such approved plans, projects, and subdivision requests will have a correspondingly lower contribution toward any roadway or intersection improvement mitigation measures required in City environmental documents. Further, City General Plan Policy CIRC-3.3 notes that approved plans, projects, and subdivision requests will accommodate transit facilities consistent with transit agency planning.

Overall, the Project would not interfere with the implementation of a planned bicycle facility, pedestrian facility, or transit service/facility. The Project, in combination with all past, present, and probable future projects, would not cause a degradation in transit service such that service does not meet performance standards established by the transit operator. The proposed Project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within Stanislaus County), would not be expected to cause any significant cumulative pedestrian or bicycle facilities impacts. Cumulative impacts to pedestrian and bicycle facilities would be ***less than significant***, and the proposed Project would have a ***less than***

cumulatively considerable incremental contribution to cumulative impacts on pedestrian or bicycle facilities.

UTILITIES

The cumulative setting includes all areas covered in the service areas of the City's wastewater system, water system, stormwater system, and the solid waste collection and disposal services. Under General Plan buildout conditions, the City would see an increased demand for water service, sewer service, solid waste disposal services, and stormwater infrastructure needs.

Impact 4.21: Cumulative Impact on Wastewater Utilities (Significant and Unavoidable and Cumulatively Considerable)

Wastewater Treatment: Wastewater service is provided by the City of Riverbank via their network of collection infrastructure and the City wastewater treatment plant (WWTP). The City of Riverbank's wastewater treatment system is currently in compliance with Waste Discharge Requirements (WDRs) Order No. 94-100. The maximum permitted treatment capacity in Riverbank as prescribed under Waste Discharge Requirements (WDRs) Order No. 94-100 and the associated monitoring and reporting program, which was adopted by the Central Valley RWQCB, on April 22, 1994, is 7.9 mgd. While the permitted capacity is 7.9 mgd, the actual capacity at the WWTP is closer to approximately 1.6 mgd, and the plant is nearing capacity.

The WWTP serves the approximately 2,485-acre City of Riverbank, the population of which in 2021 was approximately 25,243 people (KSN 2022). Influent to the WWTP includes flows from industrial discharges and domestic wastewater sources. Domestic wastewater sources include residential, institutional, public facility, and commercial sources. Unit wastewater generation rates in the city range from 55 gallons per capita per day (gpcd) to 63 gpcd. (KSN 2022). Influent wastewater flows (flows into the plant) from the city are affected by seasonal events. During the wet season, infiltration and inflow (I/I) (e.g., rainfall and groundwater seeping through cracks into sewer pipes or through other utility access points) increase influent to the plant; during dry-period flows, occurring predominantly in July, August, and September, flows are lower. Recent annual average flows have ranged from 1.49 million mgd to 1.61 mgd (KSN 2022). Seasonal increases in wastewater flows resulting from I/I typically occur in the months of December through March, but with occasional increases in influent flows occurring as late as May. Seasonal peak flows typically occur during very heavy rain periods, resulting in peak influent flows of up to 4.0 mgd. Annual average influent concentrations of biological oxygen demand (BOD) and total suspended solids (TSS), which range from 236 milligrams per liter (mg/L) to 428 mg/L and from 144 mg/L to 340 mg/L, respectively, are generally consistent with wastewater strength associated with a mixture of primarily residential flows with some commercial and industrial contribution (KSN 2022).

Future growth in the city is managed under the policies of the City's General Plan and under adopted zoning. Future city wastewater flows and loads to the WWTP are expected to increase as a result of infill development and new development within the City's general plan/sphere of influence. No new significant industrial discharges are known to be planned. The City's latest projections (KSN 2022) reflect future flows and loads to the City's WWTP based on future population growth projected to

2050 rather than at buildout of the city, which is expected to occur well beyond the proposed 30-year planning horizon. In 2050, the city's population is estimated to reach approximately 36,766 (KSN 2022). Based on this population projection, wastewater flows in 2050 are projected to be required at up to 2.29 mgd. As California Building Codes continue to upgrade water consumption standards, and as new homes become more efficient, the planned expansion of the WTTP to 2.29 mgd may be able to serve additional units, above the initial design assumptions.

As discussed previously, the City has two future needs at the WWTP. One is to convert (upgrade) the WWTP from a secondary to a tertiary facility. Second, and as part of that conversion, the City intends to increase (expand) the WWTP capacity. Historically, the City has been able to increase capacity at the WWTP by adding aerators, refurbishing ponds, and making other minor adjustments, equipment or operational, at the WWTP. Some of these options might still be available, but they are not long-term solutions, and would result in modest capacity increases. Longer-term solutions will need to be designed, funded, and constructed to provide adequate capacity for full buildout of the General Plan.

The WDR for the City's WWTP provides a permitted capacity of 7.9 mgd as authorized under Waste Discharge Requirements (WDRs) Board Order Number No. 94-100. The WWTP does not operate at its permitted capacity, instead it is limited to a capacity of approximately 1.8 mgd and currently treats approximately 1.6 mgd in dry weather conditions. The City has planned upgrades at the WWTP that would increase capacity upon the City securing funding to implement those upgrades.

The proposed Project's wastewater generation is estimated to be approximately 641,000 (0.641 mgd). The capacity needed to serve the Specific Plan would require the City to implement the WWTP and Recycled Water Storage and Distribution project, or another project, that would increase capacity by at least the 0.69 mgd required for the Project. The additional capacity of 0.69 mgd is projected to be sufficient to serve the proposed Specific Plan's need of 0.641 mgd, provided that other projects do not also request additional capacity. In the event other projects request some of the available capacity, all the upgraded capacity will not able to be fully allocated to the proposed Specific Plan. As discussed previously, other improvement projects, or minor modifications or adjustments at the WWTP might be able to create some additional capacity that is needed. Alternatively, if the WWTP upgrades are in place, additional modular units may be able to be added. As the Specific Plan builds out over its planning horizon, it may be necessary for the City to make further upgrades to the WWTP to add additional capacity to the WWTP, although an exact capacity need for unknown future projects cannot be calculated at this time. Although not expected, if any future changes at the WWTP fall outside of that reviewed in this EIR, or in the ND for the *City of Riverbank Regional Recycled Water Project Preliminary Design Report* (KSN 2022), additional environmental analysis may be required for those upgrades.

The proposed Specific Plan would require sewer allocation for each phase of development as the phase is constructed through 2040. Allocation of available sewer capacity is provided by the City at the time payment of the appropriate connection fees is made to the City to cover a pro-rata fair share of the capital cost for the sewer capacity. The WWTP upgrades, if built, are anticipated to increase capacity of the plant by 0.69 mgd, of which the proposed Specific Plan will require 0.64 mgd

at buildout. The first 5-10 years of construction phases may be adequately served by the WWTP upgrades that add 0.69 mgd; however, it may be necessary for additional WWTP upgrades based on other development that occurs throughout the City. Overall, the Specific Plan's capacity needs may exceed the wastewater discharge requirements from the wastewater treatment provider, which will depend on future project demands and WWTP upgrade implementation. WWTP upgrades are dependent on financing, as well, as design, engineering, and construction schedule that is not yet secure. This is a potentially significant impact, however, mitigation that limits construction to only those units that have secured capacity would ensure that there is not an exceedance of the sewer capacity. With implementation of the mitigation presented in this document, the proposed project would have a ***less than significant cumulative*** *impact* and ***less than cumulatively considerable*** incremental impact on wastewater utilities capacity.

Wastewater Collection/Conveyance: The wastewater collection and conveyance system that will serve the proposed Specific Plan will consist of engineered infrastructure consistent with the City's existing infrastructure requirements. Sizing of existing infrastructure in the City varies based on location, but generally includes gravity sewers and force mains ranging in size from 8 to 10 inches, and lift stations. The existing facilities have undergone environmental review and have waste discharge permits from the State.

Sanitary sewer will be provided to the Specific Plan Area through the installation of force mains, pump stations, and a network of gravity flow sewer mains. Figure 2.0-15 illustrates the preliminary sanitary sewer plan. It is noted that the final location of force mains, pump stations, and sewer mains is subject to change. The sanitary sewer system calls for three pump stations (Northeast Pump Station, South Pump Station, and West Pump Station). Additionally, there is an alternative location for the South Pump Station.

The gravity flow system is made up of 24", 18", 15", 12", 10", and 8" sewer mains located predominately in the arterial and collector roadways. The system will also have a network of 8" sewer mains within the residential villages ultimately connecting to each home. Gravity sewer mains will convey all collected wastewater from the Specific Plan Area to one of the three pump stations, which will in turn ultimately discharge all flows to the Northeast Pump Station.

The ultimate strategy for the Specific Plan requires force mains to cross under the Stanislaus River from the Northeast Pump Station and travel approximately 1.4 miles to the Wastewater Treatment Plant, following the approximate alignment of an existing farm road. The river crossing involves installing a 10" force main to serve the Specific Plan, and a 16" force main that can be used for future development in the City of Riverbank Sewer Sheds 2 and 3, which are located south of Patterson Road. Any extension of the 16" sewer line would be done at a future time by others. The 1.4-mile extension of the sewer line is an offsite improvement that is included in the analysis of the EIR for the Specific Plan. The line would cross APN 247-25-21 (Roberson Ranch Development LLC), APN 247-25-22, 247-25-4, and 247-26-2 (City of Riverbank). The location of the sewer line was evaluated to ensure it was setback from the Stanislaus River and any riparian habitat associated with the river. The bore under the river will not have any direct impact to the bed, bank, or flow of the Stanislaus River, and it will not have any direct impact to the riparian habitat along the edges of the river.

Depending on the depth of the bore, dewatering may be necessary to the bore pit. This would not involve dewatering of the Stanislaus River. Any dewatering would be performed under permit from the Regional Water Quality Control Board.

Sanitary sewer from a portion of the Specific Plan Area may also be conveyed to the existing City sanitary sewer collection system. This would be implemented as an interim measure until the proposed force main is constructed under the Stanislaus River, and extended to the wastewater treatment plant. The interim connection to the City sewer system would consist of a pump station constructed near the south end of the Specific Plan Area, with a force main to convey wastewater to the existing City sewer collection system. Potential alternative interim points of connection to the City sanitary sewer collection system include:

1. Existing pipeline near the intersection of Hot Springs Lane and Patterson Road.
2. Existing pipeline terminus in Patterson Road, approximately 450 ft. west of the intersection with Oakdale Road.
3. Terminus of Cipponeri Road, approximately 450 ft. south of the intersection with Candlewood Place.

The quantity of development units to utilize this interim connection to the existing City conveyance system will be determined based on available capacity within the existing conveyance system, intended pace of development, and construction cost. Detailed studies will be performed to verify sufficient capacity exists in the existing downstream conveyance system, as well as to identify any improvements to the conveyance system to accommodate additional flows, if necessary.

The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed sanitary sewer system upon installation of the improvements. The installation of the improvements will be within the footprint of the Specific Plan Area, as well as the offsite improvement area. The impacts associated with development in the Specific Plan, including the offsite improvement area, have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a less than significant impact, while in other cases it was determined that development would have a significant and unavoidable impact (i.e., loss of prime farmland). This is a physical impact for which the installation of wastewater infrastructure will contribute. Consistent with the conclusions made throughout this EIR, installation of the wastewater collection and conveyance system infrastructure to serve the proposed Project would have a ***cumulatively significant*** and ***significant and unavoidable*** impact.

Impact 4.22: Cumulative Impact on Water Utilities (Significant and Unavoidable and Cumulatively Considerable)

Water demand from past and present development and from agricultural production activities within the boundary of the groundwater basin has contributed to groundwater decline in the region. Future urban development within the groundwater basin has potential to increase groundwater pumping within the groundwater basin. However, where new urban development occurs on land in active agricultural use, the potential exists for urban uses to reduce demand for groundwater

relative to agricultural uses, as urban uses often demand less water than is required for agricultural irrigation.

The proposed project would convert actively cultivated agricultural land to urban use. The total water supplies projected to be available in 2035 in all year types (15,945 AF) satisfies the projected potential water demand in 2035 in all year types (5,096 AF). With the projection of supply and demand presented previously for 2040, the total water supplies projected to be available in 2040 in all year types (15,945 AF) satisfies the projected potential water demand in 2040 in all year types (5,406 AF). Therefore, the City is projected to have approximately 9,369 AF of unallocated water supply in 2040 under all water year types. The future anticipated unallocated water supply significantly exceeds the 1,170 AFY total water demand of the Project.

It is noted that, while the Water Supply Assessment concludes that the City has adequate water supplies to support the Project, the Project would be required to construct the aforementioned water conveyance and storage infrastructure in order to serve the Project.

As shown in Table 3.14-11 in Section 3.14, the proposed Project's water demand is 1,178.6 AFY. The Water Supply Assessment completed for the proposed Project demonstrates that the City's existing and available potable water supplies are sufficient to meet the City's existing and projected future potable water demands to the year 2040 under all hydrologic conditions. As noted previously, the GSP Sustainability Goal will be achieved within the 20-year implementation period and maintained throughout the planning horizon through a robust monitoring program and a series of projects and management actions that involve groundwater recharge, in lieu surface water use, conservation, stormwater management, and other strategies to be developed and modified over time through adaptive management. The GSP ensures that adequate groundwater is available for the next 20 years.

Under General Plan buildout conditions, the City of Riverbank would see an increased demand for water services. There are available water supplies to serve the proposed Project from existing entitlements and resources. Additionally, the proposed Project would not cause a significant impact related to the construction of the water system. Buildout of the General Plan would add additional demand. According to the City's 2020 UWMP, buildout of the General Plan would result in a projected water demand of 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, each at a capacity of 1,500 gpm, to meet the 20 percent reserve capacity provisions and maximum daily demands, as well as emergency storage requirements at buildout conditions.

As discussed in Impact 3.9-2 in Section 3.8, Hydrology and Water Quality, the proposed Project would be required to build new municipal water wells to increase capacity of available water. The proposed wells will be sufficient to supply the needs of the proposed Project. The connection to the City system is intended to provide some initial development in advance of constructing a well site, as well as to provide some system redundancy and reliability.

As discussed in the City's 2020 UWMP, the City's groundwater wells are located in the Modesto groundwater subbasin and the City is part of the STRGBA GSA. The Modesto Subbasin GSP accounted for expected population growth in the City of Riverbank to approximately 52,500 by 2025, based on the 2005-2025 General Plan adopted in 2009, which is much higher than the more recent population projections which project a population of only 30,549 by 2040. Even with the large population growth assumed in the GSP, the City's groundwater supplies are expected to be highly reliable for serving a future development such as the Proposed Project. The GSP identifies that the subbasin declining water levels are occurring primarily in the eastern Subbasin – not the central Subbasin where the City is located. Furthermore, many mitigation measures are presented in the GSP to ensure long-term sustainability of the Modesto Subbasin and will be implemented over the coming years. One of the specific policies mentioned in the GSP that the City of Riverbank will implement, to achieve its goal of adequately supplying quality water to serve existing and future project development needs, is: "new developments shall incorporate water conservation techniques to reduce water demand in new growth areas, including the use of reclaimed water for landscaping and irrigation". While water conservation measures and use of reclaimed water for landscaping and irrigation use, where possible, will help reduce overall demand, even without these measures, the groundwater availability in Riverbank is expected to be adequate to serve the expected demand from the Proposed Project.

There would be sufficient water resources available to provide supply for buildout of the cumulative scenario, so that no significant cumulative effect on the overall water supply would result. Therefore, this would result in a ***less than significant cumulative*** *impact* and a ***less than cumulatively considerable*** impact on water utilities.

Domestic water service will be provided to the Specific Plan Area through the installation of a pressurized water system made up of onsite wells, water tanks, water mains, and a pressure regulating station. Figure 2.0-14 illustrates the preliminary water plan. It is noted that the final location of water mains, tanks, wells, and pressure regulating stations is subject to change.

Due to the elevation differences across the Plan Area, the water system has two pressure zones (PZ-1 and PZ-2), which call for pressure regulating stations to be incorporated into the project. The water system is made up of 12" water mains located predominately in the arterial and collector roadways. The 12" lines will feed into a system of 8" lines and ultimately into the individual service connections. The water system ultimately requires two wells, which preliminary plans call for in the eastern and northern portions of the Specific Plan Area.

The water system ultimately requires a 2-million-gallon water tank. A variety of engineering considerations were made to find the best location for the tank, but another important factor was visibility. It was determined that the tank could be situated in the eastern portion of the Specific Plan Area in an area near a planned storm drainage basin, outside a residential village, and partially hidden by topography.

It is proposed to connect to the existing City water system with a proposed 12-inch transmission main in Patterson Road. This main would extend from the project, and connect to an existing 12"

waterline at approximately 400 feet to the west of the intersection of Hot Springs Lane. As an alternative, a secondary connection to the existing City water system may be made in Cipponeri Road, approximately 450 feet south of the intersection of Candlewood Place.

While a tank and two wells are needed to serve the ultimate build-out of the plan area, all of these items will not be needed to serve the initial stages of development. A detailed study will be performed with the preparation of improvement plans that will indicate the timing of when the proposed tank and wells will be necessary to serve the development.

The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed water system upon installation of the improvements. The installation of the improvements will be within the footprint of the Specific Plan Area, as well as the offsite improvement area. The impacts associated with development in the Specific Plan, including the offsite improvement area, have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a less than significant impact, while in other cases it was determined that development would have a significant and unavoidable impact (i.e., loss of prime farmland). This is a physical impact for which the installation of water infrastructure will contribute. Consistent with the conclusions made throughout this EIR, installation of the water conveyance system infrastructure to serve the proposed Project would have a ***cumulatively significant*** and ***significant and unavoidable*** impact.

Impact 4.23: Cumulative Impact on Stormwater Facilities (Significant and Unavoidable and Cumulatively Considerable)

Past, pending, and probable future development projects in the area could result in additional discharges of stormwater during storm events. When combined, these future development projects could, in theory, could lead to an incremental increase in peak stormwater runoff and potential incremental increases in downstream flood elevations. However, these past, pending, and probable future development projects in the area would be subject to the City's Storm Water Management and Discharge Control (Chapter 53 of the Code) and Grading Ordinance (Chapter 155 of the Code), as applicable. Chapter 53 of the Code (Storm Water Management and Discharge Control) was adopted pursuant to the Federal Water Pollution Control Act and is to protect and improve water quality of receiving waters, as well as reduce the adverse effects of polluted runoff discharges on waters of the state. Section 53.06, Chapter 53 of the Code regulates stormwater and prohibit non-stormwater discharges except where regulated by an NPDES permit. Additionally, past, pending, and probable future development projects in the area City's Low Impact Development Design and Specifications Manual.

Stormwater will be collected through a network of gutters, inlets, and storm drains that will direct storm water to storm water basins constructed within the Specific Plan Area. All stormwater would be pre-treated in accordance with current NPDES requirements, and would be detained prior to discharge into the MID canals or the Stanislaus River. Basins would be capable of storing the 50-year storm volume in accordance with City of Riverbank standards. Each watershed and basin are described below:

- The **North Basin** is designed to serve a 214-acre watershed with two connected basins totaling 6.2 acres combined that have a 24.9 ac-ft capacity. The basin has two alternatives: 1) Infiltration trench (French Drains approx. 4,850 LF, 6'Wx8'D), or 2) Pump Station that would discharge to the Stanislaus River at a flow of 2,365 GPM.
- The **West Basin** is designed to serve a 226-acre watershed with a 7.3-acre basin that has a 28.5 ac-ft capacity. The basin includes a Pump Station that would discharge to the MID Main Canal at a flow of 2,583 GPM.
- The **East Basin** is designed to serve a 231-acre watershed with a 5.8-acre basin that has a 25.8 ac-ft capacity. The basin includes a Pump Station that would discharge to the MID Spenker Drain at a flow of 2,335 GPM.
- The **South Basin** is designed to serve a 68-acre watershed with a 1.2-acre basin that has a 6.3 ac-ft capacity. The basin includes a Pump Station that would discharge to the MID Spenker Drain at a flow of 573 GPM.
- **Area A** is a 48-acre watershed with the exact location and design to be determined. This area currently has several homes, a nursery, and agricultural land. The storm drainage design would be needed as the property owners contemplate development of this land.
- **Area B** is a 34-acre watershed with the exact location and design to be determined. This area currently has four large estate homes and a variety of agricultural land. The storm drainage design would be needed as the property owners contemplate development of this land.
- **Area C** is a 15.5-acre watershed with the exact location and design to be determined. This area currently is agricultural land. The storm drainage design would be needed as the property owners contemplate development of this land.
- Note that Areas A, B, and C can provide storm drainage on an individual parcel basis as those parcels develop. Alternatively, they may accommodate storm drainage through a shared basin (or basins) if agreed to by the landowners within those watersheds. The determination to utilized shared basins or individual basins within each parcel will be made at the time of development within those watersheds.

The aforementioned basin volumes are based on the runoff from a 50-year, 24-hour storm event, which must be held no less than six inches below the lowest tributary rim elevation, consistent with City of Riverbank Standards. The proposed pump discharge rates are such that they would evacuate the volume from a 10-year design storm over a 48-hour period. This discharge rate is based on the City's requirements for basin evacuation through percolation facilities, though the City has no formal adopted standard for the maximum time to empty a basin via pumped discharge. Infiltration trenches or other percolation facilities may also be utilized as an alternative to pumped discharge to MID facilities.

Stormwater Discharge into MID-owned facilities will be subject to the terms of a Discharge Agreement between the City of Riverbank and MID. This agreement will describe such provisions as discharge flowrate limitations, maintenance obligations, fees, and other provisions.

The agreement will likely also allow the MID to temporarily restrict stormwater discharges to the canals, which may result in longer storage periods for volume within the basins. As mentioned previously, the City has no adopted standard for the maximum time to empty a basin via pump station. Nevertheless, basins will be designed to store the volume from a 50-year design storm at an elevation below the lowest tributary inlet. This requirement should also result in sufficient storage volume to protect building pads from inundation due to higher-runoff storm events, such as the 100-year design storm. Given these considerations, sufficient flood protection will still be provided by the basins in the event that pumped discharge into the MID is temporarily restricted.

The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed stormwater infrastructure, including basins, pump stations, inlets, pipelines, and appurtenant structures upon installation of the improvements.

As an alternative, the project may utilize the 63 acre +/- reserve area as shallow flood storage to contain and infiltrate stormwater runoff from the project. Under this alternative, stormwater from the development would enter the proposed West Basin via concrete inlet structure. The West Basin would be sized to accommodate the "Water Quality Volume" from the tributary watershed. This volume is defined as the runoff resulting from an 85th percentile 24-hour storm event, which is equivalent to a rainfall depth of approximately 0.50 in. This criterion is utilized throughout the State in the design of stormwater quality infrastructure.

Runoff volume that exceeds the capacity of the West Basin would overflow into the adjacent Reserve Area, which would function as an area of shallow flood storage. This approximate 63-acre area would store volumes at relatively shallow depths, and would allow the stored volume to infiltrate into the subsurface soils. A series of relatively short containment berms would be constructed through the Reserve Area to distribute the flood storage more equally across the entire area, as well as to limit the depth of the storage.

The depth of flood storage within the Reserve Area would be limited to approximately 12 to 18 inches. The intent in limiting flood storage depth is to allow for the continued use of the orchard within the Reserve Area. Using the entire Reserve Area as flood storage area as described herein would provide sufficient capacity to accommodate approximately 440 acres of tributary area. This would be equivalent to the combined areas from the West Basin and North Basin watersheds, which may eliminate the need for a separate North Basin. Other equivalent combinations of watersheds and reduction of basin infrastructure may be utilized, as well. Using the Reserve Area for flood storage in this manner may also allow for the elimination or reduction of the proposed West Basin pump station discharge to the MID Main Canal.

Onsite storm drainage would be installed to serve the proposed Project. The City of Riverbank adopted a Low Impact Development Design and Specifications Manual to assist developers in meeting State and local mandates for storm water drainage. Negative impacts to the Stanislaus River, the San Joaquin Delta and regional wildlife have prompted many municipalities to design and adopt LID practices and guidelines. The Project Area is identified as a greenfield/rural residential

property and floodplain in the Low Impact Development Design and Specifications Manual and does not have any other land data available due to it being outside the current City limit line.

As shown in Figure 2.0-13 in Section 2.0, a standalone drainage system that will detain all storm water runoff on-site in detention basins is proposed. Because of the greenfield/rural residential designation within the Low Impact Development Design and Specifications Manual, maintaining existing hydrological conditions by conserving natural areas and existing drainage features is an important consideration, where possible. Impervious hardscape surfaces (i.e., conventional roofs and paving) will be designed to discharge to pervious areas to help filter and infiltrate the stormwater runoff. To further aid infiltration, native soil compaction in landscaped areas will be minimized.

Land planning for the Specific Plan and the preliminary drainage design are integrated to emphasize water conservation, protect water quality, help reduce flooding, and improve the overall watershed health. The proposed LID practices are appropriate for the local and existing conditions found on the Specific Plan Area.

LID practices can greatly improve storm water quality by encouraging processes (such as sedimentation, filtration, or evapotranspiration) which reduce the pollutants present in urban and suburban runoff. The proposed Specific Plan will utilize LID guidelines and specifications throughout the proposed storm drainage system to ensure better water quality, recharging of ground water supplies where feasible, and reduce community infrastructure costs.

BMP'S go hand in hand with LID guidelines to help address significant water quality issues and hydrologic concerns that developments create. Several design goals are required by the City, including:

- conserve natural areas and drainages;
- minimize impervious surfaces, drain to pervious area;
- minimize soil compaction;
- mitigate peak runoff and associated erosion; and
- treat runoff in storm water BMPs.

Construction of the Specific Plan is anticipated to be phased and will be directed by demand and need. Because of this, temporary basins will be needed to handle storm water runoff until the permanent facilities are constructed. Water levels will not exceed four feet with two feet of freeboard for the temporary storm drain basins.

The landscape in the storm drain basins will serve two purposes: provide a visually appealing place for recreational activities, and serve as retention and assist in the detention of storm water runoff. Through the use of bio-swales, infiltration, inlets, and conduits, storm water will be managed efficiently while adhering to the strict standards set forth by the City of Riverbank LID Practices.

All new construction projects in the City of Riverbank are classified in the Low Impact Development Design and Specifications Manual based on their intended use (i.e., residential, Mixed Use, parking areas, etc.). The following design standards must be implemented for all project classifications:

- Mitigate peak run-off flow rates
- Conserve and create natural areas
- Minimize storm water pollutants of concern
- Protect slopes and channels
- Provide storm drain stenciling and signage
- Properly design outdoor material and trash storage areas
- Provide proof of ongoing BMP practices and maintenance
- Incorporate treatment control BMPs for water quality

LID practices are most effective when they are dispersed throughout a development project. The proposed Specific Plan has been designed with this in mind and features linear park drainage basins running throughout the Project Area. Treatment and attenuation of flows throughout the Project Area can be achieved by draining sidewalks to vegetated filter strips, constructing parking lots with permeable pavement, and outletting roof leaders to the surface of a bio-retention area.

The proposed Project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the Riverbank General Plan), would not be expected to cause any significant cumulative stormwater flooding impacts. The proposed Project would not have cumulatively considerable impacts associated with stormwater. Implementation of the proposed project would have a ***less than significant cumulative impact*** and ***less than cumulatively considerable*** incremental contribution to cumulative impacts on stormwater.

The City of Riverbank Public Works Department will be responsible for the operation and maintenance of the proposed stormwater system upon installation of the improvements. The installation of the improvements will be within the footprint of the Specific Plan Area, as well as the offsite improvement area. The impacts associated with development in the Specific Plan, including the offsite improvement area, have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a less than significant impact, while in other cases it was determined that development would have a significant and unavoidable impact (i.e., loss of prime farmland). This is a physical impact for which the installation of stormwater infrastructure will contribute. Consistent with the conclusions made throughout this EIR, installation of the stormwater collection system infrastructure to serve the proposed Project would have a ***cumulatively significant*** and ***significant and unavoidable*** impact.

Impact 4.24: Cumulative Impact on Solid Waste Facilities (Less than Significant and Less than Cumulatively Considerable)

The cumulative context for cumulative impacts on solid waste facilities includes the Gilton Solid Waste Management service area and the Bertolotti Disposal service area.

Solid waste generated in the City is disposed at the Forward Landfill and the Fink Road Landfill. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The total permitted

capacity of the landfill is 59.16 million cubic yards, which is expected to accommodate an operational life until January 1, 2036. The remaining capacity is 24.7 million cubic yards.

Additionally, permitted maximum disposal at the Fink Road Landfill which has a design capacity of 28.29 million cubic feet and estimated closure date of 2050.

The total solid waste generated by the proposed project is estimated to be 24,760.4 pounds per day (12.38 tons per day). As previously described, solid waste generated in the City is disposed at the Forward Landfill and the Fink Road Landfill. The Stanislaus County Regional Solid Waste Planning Agency's solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City and County.

The Gilton Solid Waste Management and Bertolotti Disposal service areas area expected to serve the City's existing residents and cumulative project development projects through 2045. These and other projects within the region are likely to generate new sources of solid waste that would need to be processed at the Forward Landfill and/or Fink Road Landfill. These Landfills have sufficient capacity to serve existing and future projects in the City. Implementation of the proposed project, together with past, present, and probable future projects, would have a less than significant cumulative impact relative to this environmental topic. Therefore, this would result in a ***less than significant*** and a ***less than cumulatively considerable*** impact on solid waste facilities.

4.2 SIGNIFICANT IRREVERSIBLE EFFECTS

LEGAL CONSIDERATIONS

EIRs for certain kinds of projects, as set forth in CEQA Guidelines section 15127, must discuss significant irreversible environmental changes. These projects include those involving (i) the adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency, (ii) the adoption by a Local Agency Formation Commission of a resolution making determinations, or (iii) the parallel preparation of an environmental impact statement under the federal National Environmental Policy Act.

Here, the proposed Project falls into two of these categories, in that it requires the adoption or amendments of plans, policies, and ordinances, and will require actions and determinations by Stanislaus LAFCO. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed Project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Analysis

Implementation of the proposed Project would result in the conversion of land currently used for agricultural and rural residential uses for the development of residential and commercial uses. Development of the proposed Project would constitute a long-term commitment to these uses. It is unlikely that circumstances would arise that would justify the return of the land to its original condition as agricultural or vacant rural land.

A variety of resources, including land, energy, water, construction materials, and human resources, would be irretrievably committed for the initial construction, infrastructure installation and connection to existing utilities, and their continued maintenance. Construction of the proposed Project would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the proposed Project. The introduction of residential, commercial, and public park uses to the Specific Plan Area will result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the proposed Project will increase consumption of available supplies, including gasoline and diesel. These energy resource demands relate to initial Project construction, Project operation and site maintenance and the transport of people and goods to and from the Specific Plan Area.

4.3 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the proposed Project are discussed in Sections 3.1 through 3.14 and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impacts identified below:

- Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character.
- Impact 3.2-1: The proposed Specific Plan has the potential to result in the conversion of Farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses.
- Impact 3.7-1: Project implementation would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or to conflict with

an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

- Impact 3.7-2: Project implementation could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases
- Impact 3.11-1: Construction of the proposed Project may generate significant noise.
- Impact 3.11-3: The proposed Project may generate unacceptable traffic noise levels at existing receptors.
- Impact 3.11-4: The proposed Project may be subject to shooting range noise at new sensitive receptors.
- Impact 3.12-3: The proposed Project has the potential to increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated, and it will require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts.
- Impact 3.13-1: Implementation of the Specific Plan would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- Impact 3.13-2: Implementation of the Specific Plan would not conflict with or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).
- Impact 3.13-3: Implementation of the Specific Plan would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Impact 3.14-1: The proposed Project has the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Impact 3.14-3: The proposed Project has the potential to require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.
- Impact 3.14-5: The proposed Project has the potential to require or result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects.
- Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region.
- Impact 4.4: Cumulative Impact on Agricultural Resources.
- Impact 4.5: Cumulative Impact on the Region's Air Quality.
- Impact 4.6: Cumulative Loss of Biological Resources Including Habitats and Special Status Species.
- Impact 4.9: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions
- Impact 4.17: Cumulative Exposure of Existing and Future Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development.
- Impact 4.19: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

- Impact 4.21: Cumulative Impact on Wastewater Utilities.
- Impact 4.22: Cumulative Impact on Water Utilities.
- Impact 4.23: Cumulative Impact on Stormwater Facilities.

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5.1 CEQA REQUIREMENTS

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) analyze a reasonable range of feasible alternatives that would feasibly attain most of the basic objectives of the project while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

Alternatives that are evaluated in the EIR must be potentially feasible alternatives. However, not all possible alternatives need to be analyzed. An EIR must "set forth only those alternatives necessary to permit a reasoned choice." (CEQA Guidelines, Section 15126.6(f).) The CEQA Guidelines provide a definition for a "range of reasonable alternatives" and, thus limit the number and type of alternatives that need to be evaluated in an EIR.

First and foremost, alternatives in an EIR must be potentially feasible. In the context of CEQA, "feasible" is defined as:

> *… capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.* (CEQA Guidelines 15364)

The inclusion of an alternative in an EIR is not evidence that it is feasible as a matter of law, but rather reflects the judgment of lead agency staff that the alternative is potentially feasible. The final determination of actual feasibility will be made by the lead agency decision-making body through the adoption of CEQA Findings at the time of action on the Project. (*California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 999-1001 (*CNPS*); *Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App.4th 477, 489; see also CEQA Guidelines, §§ 15091(a)) (3) [findings requirement, where alternatives can be rejected as infeasible]; 15126.6 [([an EIR] must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation"].) The following factors may be taken into consideration in the assessment of the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, general plan consistency, other plan or regulatory limitations, jurisdictional boundaries, and the ability of the proponent to attain site control (Section 15126.6 (f) (1)).

In addition, agency decisionmakers, in assessing actual feasibility, may legitimately consider whether particular alternatives, compared with a proposed project, represent an undesirable balance of competing policy considerations, or fail to attain project objectives to the same degree as a proposed project. (See *City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417 ["'feasibility' under CEQA encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors"]; *CNPS*, *supra*, 177 Cal.App.4th at p. 1001[same]; *San Diego Citizenry Group v. County of San Diego*

(2013) 219 Cal.App.4th 1, 17 [same]; *Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490, 1506-1509 [upholding CEQA findings rejecting alternatives in reliance on applicant's project objectives]; *Citizens for Open Government v. City of Lodi* (2012) 296 Cal.App.4th 296, 314-315 [court upholds agency action where alternative selected "entirely fulfill" a particular project objective and "would be 'substantially less effective' in meeting" the lead agency's "goals"]; and *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1165, 1166 (Bay-Delta) ["feasibility is strongly linked to achievement of each of the primary program objectives"; "a lead agency may structure its EIR alternative analysis around a reasonable definition of underlying purpose and need not study alternatives that cannot achieve that basic goal"].)

Special considerations come into play where a project proposes housing. Government Code section 65589.5, subdivision (j), provides that "[w]hen a proposed housing development project complies with applicable, objective general plan, zoning, and subdivision standards and criteria, including design review standards, in effect at the time that the application was deemed complete," the local lead agency may not "disapprove the project or … impose a condition that the project be developed at a lower density" unless the agency can issue "written findings supported by a preponderance of the evidence on the record" both (a) that "[t]he housing development project would have a specific, adverse impact upon the public health or safety unless the project is disapproved or approved upon the condition that the project be developed at a lower density" and (b) that "[t]here is no feasible method to satisfactorily mitigate or avoid the adverse impact" on public health and safety "other than the disapproval of the housing development project or the approval of the project upon the condition that it be developed at a lower density." In this context, "a "specific, adverse impact" means a significant, quantifiable, direct, and unavoidable impact, based on objective, identified written public health or safety standards, policies, or conditions as they existed on the date the application was deemed complete."

An earlier version of section 65589.5, subdivision (j), came into play in *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715-716. In that case, the court upheld a lead agency decision-making body's rejection, in findings adopted at the time of project approval, of an EIR alternative that would have provided fewer housing units than the proposed project. The city council found the alternative to be infeasible because it "would defeat the project objective of providing the 'the least expensive single-family housing for the vicinity.'" This conclusion was supported by market surveys indicating that the houses constructed under the alternative "would be necessarily more expensive than those of the proposed project." The court also invoked Government Code section 65589.5, subdivision (j), noting that the city council found that there was no substantial evidence that the proposed project would cause any public health or safety impact, and that the agency's record contained no evidence any such impact. The court agreed with the respondent agency that "this enactment is not a legislative will-o'-the-wisp" but rather "is based on a legislative finding that 'The lack of affordable housing is a critical problem which threatens the economic, environmental, and social quality of life in California.'"

In considering the approval of a proposed housing project, local agency decisionmakers must also be cognizant of Government Code section 66300, created by Senate Bill 330 from 2019 (also known as the Housing Crisis Act of 2019). Subdivision (b)(1)(A) of section 66300 generally prevents a city

from changing an existing residential general plan, specific plan, and zoning designation predating January 1, 2018, to "a less intensive use" or to reduce the intensity of the designation below what was allowed on January 1, 2018. An exception to this prohibition exists, however, where the city "concurrently changes the development standards, policies, and conditions applicable to other parcels within the jurisdiction to ensure that there is *no net loss* in residential capacity." (Gov. Code, § 65300 (h)(2)(i)(1) [italics added].)

Finally, a third statute that limits agencies' discretion to reduce the densities of proposed housing projects is Public Resources Code section 21159.26, which states that, "[w]ith respect to a project that includes a housing development, a public agency may not reduce the proposed number of housing units as a mitigation measure or project alternative for a particular significant effect on the environment if it determines that there is another feasible specific mitigation measure or project alternative that would provide a comparable level of mitigation."

Equally important to the formulation of a reasonable range of alternatives in an EIR is the need for alternatives to substantially lessen one or more of the significant effects of a proposed project. Although the law does not require agencies to exclusively focus in this context on the significant unavoidable effects of a proposed project, doing so is certainly an effective way to meet this requirement. Here, the following significant and unavoidable impacts of the proposed River Walk Specific Plan are discussed in Sections 3.1 through 3.14 (project-level) and Chapter 4.0 (cumulative-level):

- Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character.
- Impact 3.2-1: The proposed Specific Plan has the potential to result in the conversion of Farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses.
- Impact 3.4-3: The potential to have direct or indirect effects on special-status bird species, including through substantial reduction of habitat, substantial reduction of the number or range of the species, elimination of the species, or a drop in population levels below self-sustaining levels.
- Impact 3.11-1: Construction of the proposed Project may generate significant noise.
- Impact 3.11-3: The proposed Project may generate unacceptable traffic noise levels at existing receptors.
- Impact 3.11-4: The proposed Project may be subject to shooting range noise at new sensitive receptors.
- Impact 3.5-1: Project implementation has the potential to cause a substantial adverse change to an historical resource as defined in CEQA Guidelines §15064.5, a unique archaeological resource as defined in Public Resources Code section 21083.2, or a tribal cultural resource, as defined in Public Resources Code §21074.
- Impact 3.12-3: The proposed Project has the potential to increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated, and it will require the

construction of park and recreational facilities which may cause substantial adverse physical environmental impacts.

- Impact 3.13-1: Implementation of the Specific Plan would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- Impact 3.13-2: Implementation of the Specific Plan would not conflict with or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).
- Impact 3.13-3: Implementation of the Specific Plan would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Impact 3.14-1: The proposed Project has the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Impact 3.14-3: The proposed Project has the potential to require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.
- Impact 3.14-5: The proposed Project has the potential to require or result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects.
- Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region.
- Impact 4.4: Cumulative Impact on Agricultural Resources.
- Impact 4.5: Cumulative Impact on the Region's Air Quality.
- Impact 4.9: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions.
- Impact 4.17: Cumulative Exposure of Existing and Future Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development.
- Impact 4.19: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

The following analysis of alternatives focuses on significant impacts of the proposed Project, including both those that can be mitigated to a less-than-significant level and those that would remain significant even if mitigation is applied or for which no feasible mitigation is available.

A Notice of Preparation (NOP) was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review process.

PROJECT OBJECTIVES

The underlying purpose of the proposed Project is the expansion of the City of Riverbank Sphere of Influence, and approval and subsequent implementation of the Specific Plan as a means of increasing the housing supply in Stanislaus County and the State of California.

Consistent with the above-described underlying purpose, the primary objectives of the Specific Plan are to establish the framework for a new mixed-use community, allowing residents to live in a community where they can enjoy a high quality of life with abundant opportunities for outdoor recreation and social activities. The following goals have been established as a framework to achieving the primary objectives for the Specific Plan and for purposes of satisfying the requirement, in CEQA Guidelines section 15124[b], to identify a "statement of objectives" for the Project:

- Goal 1: Develop a mix of residential housing products to accommodate a variety of desires in the market.
- Goal 2: Prioritize the age-restricted development as a vibrant community with diverse housing types and densities allowing residents to age-in-place.
- Goal 3: Develop a community core area that serves as a central community gathering place for social interaction, recreation, retail, services, and living space.
- Goal 4: Promote health and wellness through extensive pedestrian and bicycle trails, outdoor recreation areas, and opportunities for social interaction.
- Goal 5: Respect the natural resources (i.e., Stanislaus River), terrain, and character of land by designing a residential community that highlights the scenic views of the Plan Area.
- Goal 6: Achieve a safe and efficient circulation system for all users and modes of transportation.
- Goal 7: Highlight village identity while promoting community amenities.

The following quantifiable objectives for the Specific Plan (but not for purposes of the CEQA-required statement of objectives) include expansion of the Riverbank Sphere of Influence by approximately 1,522 acres, annexation of approximately 997 acres into the Riverbank City limits, extension of infrastructure to the annexed area to serve development, and the subsequent development of the annexed area for: Low Density Residential, Medium Density Residential, High Density Residential, Mixed-Use, and Parks/Recreation, including all infrastructure and utilities necessary to service the development.

ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation (NOP) was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed Project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed Project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review process.

The City of Riverbank considered alternative locations early in the public scoping process. The City's key considerations in identifying an alternative location were as follows:

- Is there an alternative location where significant effects of the Project would be avoided or substantially lessened?
- Is there a site available within the city limits or sphere of influence with the appropriate size and characteristics such that it would meet the basic Project objectives?

The City's consideration of alternative locations for the Project included a review of previous land use planning and environmental documents in Riverbank, including the General Plan. The search included a review of land in Riverbank that is located within the city limits or sphere of influence, suitable for development, available for acquisition, and not already approved or pending development. It was found that there are numerous approved projects and proposed projects that are currently under review in Riverbank. These approved and proposed projects are not available for acquisition by the Project applicant and are not considered a feasible alternative for the Project applicant. The City has found that there are no feasible alternative locations that exist city limits or sphere of influence with the appropriate size and characteristics that would meet the basic Project objectives and avoid or substantially lessen a significant effect. For these reasons, the City of Riverbank determined that there are no feasible alternative locations.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

Three alternatives to the proposed Project were developed based on input from City staff, and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project:

- **No Project (No Build) Alternative**: Under this alternative, development of the Plan Area would not occur, and the Plan Area would remain in its current existing condition.
- **Increased Density Alternative:** Under this alternative, the proposed Project would be developed with the same amenities as described in the Project Description, but the density of the residential uses would be increased, and the total development footprint would be equal to the proposed Specific Plan.
- **Lower Density Alternative:** Under this alternative, the proposed Project would be developed in such a way to promote larger lot sizes and to reduce the overall footprint of the developed areas.
- **No Reserve Alternative:** Under this alternative, the proposed Project would be developed with the same amenities as described in the Project Description, but the Reserve Area located outside the Specific Plan Area would be removed from the Project Area.

NO PROJECT (NO BUILD) ALTERNATIVE

Under the No Project (No Build) Alternative development of the Plan Area would not occur, and the Plan Area would remain in its current existing condition. The current uses in the Project Area are predominantly agricultural operations, including almond and walnut orchards in the eastern/southeastern portion of the Project Area and cherry orchards and fallow land in the western/central portion of the Project Area. Under this alternative, the Plan Area would not be annexed to the City and would remain subject to County planning indefinitely. The Stanislaus County General Plan designates the majority of the Project Area as Agriculture (AG), and a small portion (5 acres including APNs 074-005-012, 074-005-013, 074-005-010, 074-005-011) of the eastern portion of Project Area as Urban Transition (UT). The Stanislaus County Zoning Ordinance currently designates the majority of the Project Area for General Agriculture 40 Acre (A-2-40) uses, and a limited portion (APNs 074-005-012, 074-005-013, 074-005-010, 074-005-011) as General Agriculture

10 Acre (A-2-10). It is noted that the No Project (No Build) Alternative would fail to meet the Project objectives. See Figure 5.0-1, No Project (No Build) Alternative, which shows the existing site conditions.

INCREASED DENSITY ALTERNATIVE

Under the Increased Density Alternative, the proposed Project would be developed with the same amenities as described in the Project Description, but the density of the residential uses would be increased, and the total development footprint would be equal to the proposed Specific Plan. This alternative would include development of more apartments and auto court multi-family units than under the proposed Project. Under the Increased Density Alternative, the same number of residential units as the proposed Project (2,432 to 2,682 units) would be constructed. However, this alternative would include development of 50 percent medium and high density units, and 50 percent low density units. The residential and mixed use areas would be clustered in the central and southern portions of the Project site at increased densities to allow for an increase in park areas in the northwestern portion of the Plan Area. This alternative would also plan for parks, trails, circulation improvements, and utility improvements in a similar way as the proposed Project. Additionally, the Mixed Use areas would provide an estimated 375,000 to 875,000 sf of commercial/retail uses, identical to the proposed Project. Under this alternative, the proposed Mixed Use areas near the northwestern Plan Area entry point would be relocated along Patterson Road where the other proposed Mixed Use areas are proposed. See Figure 5.0-2, Increased Density Alternative, which shows a conceptual site plan for this alternative.

LOWER DENSITY ALTERNATIVE

Under the Lower Density Alternative, the proposed Project would be developed in such a way to promote larger lot sizes and to reduce the overall footprint of the developed areas. This alternative would include development of custom homes on approximately 8,000 sf lots, as compared to the 5,000 sf or larger lot sizes for the low density residential units proposed by the Project. Under the Lower Density Alternative, the number of residential units constructed in the Plan Area would be reduced by 25 percent compared to the proposed Project. Under the proposed Project, 2,432 to 2,682 residential units would be constructed; this alternative would result in construction of 1,824 to 2,011 units. This alternative would also plan for parks, trails, circulation improvements, and utility improvements. Additionally, the Mixed Use areas would provide an estimated 375,000 to 875,000 sf of commercial/retail uses, identical to the proposed Project. See Figure 5.0-3, Lower Density Alternative, which shows a conceptual site plan for this alternative.

NO RESERVE ALTERNATIVE

Under the No Reserve Alternative, the proposed Project would be developed with the same amenities as described in the Project Description, but the Reserve Area located outside the Specific Plan Area would be removed from the Project Area. The same number of residential units as the proposed Project (2,432 to 2,682 units) would be constructed. This alternative would also plan for parks, trails, circulation improvements, and utility improvements in a similar way as the proposed Project. Additionally, the Mixed Use areas would provide an estimated 375,000 to 875,000 sf of

commercial/retail uses, identical to the proposed Project. However, the Reserve Area would be removed from the Project area. As such, the Project Area would be reduced from 1,522 acres under the proposed Project to 997 acres. The SOI expansion would include all 997 acres. See Figure 5.0-4, No Reserve Alternative, which shows a conceptual site plan for this alternative.

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-4 summarizes the comparative effects of each alternative.

NO PROJECT (NO BUILD) ALTERNATIVE

Aesthetics and Visual Resources

The No Project (No Build) Alternative would leave the Project site in its existing agricultural state and would not result in increases in daytime glare or nighttime lighting. The visual character of the Project site would not change under this alternative compared to existing conditions.

As described in Section 3.1, the visual character of the Project site would be significantly altered because of Project implementation. Implementation of the proposed Design Guidelines and landscaping requirements, and consistency with the General Plan and the Riverbank Zoning Ordinance, would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

The proposed Project would result in potentially significant new sources of light and glare. The proposed Project would also result in impacts to the existing visual character or quality of the Project site and its surroundings. However, the No Project (No Build) Alternative would avoid these impacts altogether. As such, this impact would be reduced when compared to the proposed Project.

Agricultural Resources

Currently, most of the Project site is used for agricultural purposes. The No Project (No Build) Alternative would not result in development of the Project site and agricultural uses would continue. As such, this alternative would have no impact on agricultural land, no potential for conflicts with existing agricultural resources, and no potential for conflict with regulations and plans intended to protect those resources. As such, this impact would be reduced when compared to the proposed Project.

Air Quality

As described in Section 3.3, Stanislaus County has a state designation of Nonattainment for Ozone (O_3), respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) and is either Unclassified or Attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone and $PM_{2.5}$. The County is designated either attainment or unclassified for the remaining national standards. Table 3.3-2 in Section 3.3 presents the state and federal attainment status for Stanislaus County.

As discussed under Impact 3.3-1 in Section 3.3, the proposed Project would result in increased emissions. The San Joaquin Valley Air Pollution Control District (SJVAPCD) has established operations related emissions thresholds of significance and it was determined that annual emissions of reactive organic gases (ROG), nitrogen oxides (NO_X), and PM_{10} exceed the SJVAPCD thresholds of significance. The proposed Project would be required to implement Mitigation Measure 3.3-1 which would ensure that individual Projects within the footprint of the proposed Project would reduce emissions to less the applicable SJVAPCD thresholds of significance.

The proposed Project is subject to the SJVAPCD Rule 9510 (Indirect Source Rule [ISR]), which could result in substantial mitigation of NO_X and associated ROG emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through Project mitigation commitments. The current fees are $9,350 per ton of NO_X. The actual calculations will be determined and finalized by the SJVAPCD and Project applicants as individual projects are brought forward for approval under Rule 9510.

Under the No Project (No Build) Alternative, the Project site would not be developed, and the existing agricultural operations within the Plan Area would continue. As described previously within this EIR (Chapter 2.0: Project Description), the current uses in the Project Area are predominantly agricultural operations, including almond and walnut orchards in the eastern/southeastern portion of the Project Area and cherry orchards and fallow land in the western/central portion of the Project Area. The land in the north/northwestern portion of the Project Area contains fallow land and various trees including Eucalyptus and Willow trees. In the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. The Project Area also includes a commercial nursery business and truck storage area. Additionally, an approximately 150-acre solar farm and the Modesto Rifle Club exist in the southwest portion of the Project Area directly northeast of the intersection of Patterson Road and McHenry Avenue, and the Morris Nursery exists in the southeastern corner of the Project Area directly northwest of the intersection of Patterson Road and Rock Creek Road. Criteria air pollutant emissions are currently generated using vehicles, agricultural equipment, land surface disturbance, and building energy use because of existing site operations.

Under the No Project (No Build) Alternative, there would be no net change in current levels of emissions and no potential for a conflict with any adopted plans or policies related to air quality. As such, this impact would be reduced when compared to the proposed Project.

Biological Resources

As described in Section 3.4, Biological Resources, construction on the Project site has the potential to result in impacts to special-status species in the region. The Project site provides potential habitat for several species, including those discussed in Section 3.4.

Mitigation Measure 3.4-1 requires the Project applicant to conduct a survey for valley elderberry longhorn beetle habitat, and avoid or minimize impacts to valley elderberry longhorn beetle habitat by developing a mitigation plan in accordance with the most current guidelines. Mitigation Measure 3.4-2 requires avoidance and minimization measures for western pond turtle, such as preconstruction surveys, relocation, and environmental awareness training for construction personnel. Mitigation Measure 3.4-4 requires the Project applicant to avoid or minimize impacts on western burrowing owl by completing an initial take avoidance survey using the recommended methods described in the Detection Surveys section of the March 7, 2012, California Department of Wildlife (CDFW) Staff Report on Burrowing Owl Mitigation (CDFW 2012). Additionally, Mitigation Measure 3.4-5 requires the Project applicant to implement various measures to avoid and/or minimize impacts on Swainson's hawk and their habitat. As part of this measure, compensatory mitigation for the permanent loss of Swainson's hawk foraging habitat would be provided. The Project applicant shall either provide lands protected through fee title acquisition or conservation easement (acceptable to the CDFW) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk. Surveys for other special-status species and other measures to minimize potential for effects during Project construction would also be required. See Mitigation Measures 3.4-1 through 3.4-10 for more information regarding the biological resources' measures. It is noted that impacts related to Swainson's hawk habitat would be significant and unavoidable with mitigation.

Under the No Project (No Build) Alternative, the proposed Project would not be constructed and no habitat would be removed. Zero acres of habitat would be converted under this alternative. However, ground disturbing activities associated with the on-site agricultural uses would occur. Periodic ground disturbance of the agricultural fields and row crops could impact ground nesting birds. Overall, this impact would be reduced when compared to the proposed Project.

Cultural and Tribal Resources

As discussed in Section 3.5, Cultural and Tribal Resources, there are two significant prehistoric period resources within the Berghill Boundary area: ML-20-02 and ML-20-03, that may contain information related to the prehistoric use and occupancy of the sites. Mitigation Measure 3.5-1 addresses the potential impacts to these two significant prehistoric period resources. Any previously unknown cultural and/or tribal resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Impacts related to substantial adverse changes to an historical resource as defined in CEQA Guidelines §15064.5, a

unique archaeological resource as defined in Public Resources Code section 21083.2, or a tribal cultural resource, as defined in Public Resources Code §21074, would be significant and unavoidable with mitigation. Impacts related to disturbance of human remains, including those interred outside of formal cemeteries, would be less than significant with mitigation.

The No Project (No Build) Alternative would result in no additional ground disturbing activities beyond those associated with ongoing agriculture. While the ground disturbance associated with agricultural uses would have the potential to disturb or destroy cultural, tribal, historic, and archaeological resources, as well as paleontological resources, the depth of disturbance under the No Project (No Build) Alternative would be significantly less compared to the depths required for utility placement, grading, and overall construction activities associated with the proposed Specific Plan. While the proposed Project is not anticipated to result in significant impacts to cultural or tribal resources with mitigation, the No Project (No Build) Alternative would result in less potential for impacts to cultural and tribal resources as the entire Project site would continue to be used for agriculture production. As such, this impact would be reduced when compared to the proposed Project.

Geology and Soils

The No Project (No Build) Alternative would result in the Project site remaining in its existing condition. In the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. Additionally, a horse ranch exists within the Project Area. The Project Area also includes a commercial nursery business and truck storage area. Additionally, an approximately 150-acre solar farm and the Modesto Rifle Club exist in the southwest portion of the Project Area directly northeast of the intersection of Patterson Road and McHenry Avenue, and the Morris Nursery exists in the southeastern corner of the Project Area directly northwest of the intersection of Patterson Road and Rock Creek Road. These structures are subject to seismic or geologic risks, including earthquakes, liquefaction, subsidence, etc. The No Project (No Build) Alternative would not involve new construction that could be subject to seismic, geologic or soils hazards, thus this alternative would have no potential for impact. As such, this impact would be reduced when compared to the proposed Project.

Greenhouse Gases, Climate Change, and Energy

Greenhouse gas emissions from a single Project will not cause global climate change; however, greenhouse gas emission from multiple projects throughout a region or state could result in a cumulative impact with respect to global climate change.

Implementation of the proposed Project would generate GHG emissions that would not otherwise exist without the proposed Project, although, as the California Supreme Court has said, “the future residents and occupants of development enabled by Project approval would exist and live somewhere else if this Project is not approved. Whether ‘here or there,’ GHG emissions associated with such population growth will occur.” (*Center for Biological Diversity v. California Department of*

Fish and Wildlife (2015) 62 Cal.4th 204, 219.) Short-term construction emissions of GHGs are estimated at a maximum of approximately 3,395.1 MT CO_2e per year. The annual mitigated GHG emissions associated with the proposed Project would be approximately 30,136 MT CO_2e. The proposed Project would not conflict with any of the GHG reduction measures contained with the CARB's 2017 Scoping Plan Update and the SJCOG's 2018 RTP/SCS, as provided above. Therefore, the proposed Project would be consistent with the State GHG reduction targets, and would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The proposed Project's criteria pollutant emissions would be considered to have a less than significant impact.

Under the No Project (No Build) Alternative, the Project site would not be developed. Emissions are currently generated using vehicles, agricultural equipment, and building energy use because of existing site operations. Under the No Project (No Build) Alternative, there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to air quality. As such, this impact would be reduced when compared to the proposed Project.

Hazards and Hazardous Materials

The proposed Project includes components which will likely use a variety of common household hazardous materials including: paints, cleaners, and cleaning solvents. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by the Stanislaus County Division of Environmental Resources and the Stanislaus Consolidated Fire Protection District.

Under the No Project (No Build) Alternative, no new land uses would be introduced to the Project site. As shown in Table 3.8-2 in Section 3.8, Hazards and Hazardous Materials, two hazardous substances (diesel fuel and pesticides, herbicides, and insecticides) are currently stored at the Berghill property in and/or near the barn structure. The materials were found to be properly labeled and stored at the time of the assessment with no signs of leaks, stains, or spills. Secondary containment is provided where applicable. Based on the typical nature of use of these materials for large-scale farming operations, and the absence of evidence of releases, these materials are not expected to represent a significant environmental concern.

No evidence of current or former USTs was observed during the site reconnaissance. A LUST case associated with a former onsite UST is discussed later in this section. As part of the Phase I ESA, one active AST and two or three inactive ASTs on the Berghill property, typical of a large-scale farming operation. The active and inactive ASTs are located around the Berghill property barn. The active AST stores diesel fuel (see Table 3.8-2), is approximately 300 gallons in capacity, and is equipped with a secondary containment enclosure. No staining, leaks or spills were noted in the vicinity of the ASTs, and no releases have been reported to Stanislaus County. No spills, stains, or other indications that a surficial release has occurred at the Berghill property were observed. No potential PCB-containing equipment (transformers, oil-filled switches, hoists, lifts, dock levelers, hydraulic elevators, etc.) was observed on the Berghill property during Partner's reconnaissance.

No strong, pungent, or noxious odors were evident during the site reconnaissance. No pools of liquid were observed on the Berghill property during the site reconnaissance. No drains, sumps, or clarifiers, other than those associated with storm water removal, were observed on the Berghill property during the site reconnaissance. No pits, ponds or lagoons were observed on the Berghill property. No stressed vegetation was observed on the Berghill property. No additional environmental hazards, including landfill activities or radiological hazards, were observed.

Under the No Project (No Build) Alternative, hazardous materials that are currently stored on site would continue to be stored. Additionally, the use of pesticides, herbicides, and insecticides would continue in the on-site agricultural areas. Because new land uses or significant ground disturbance (outside of the normal agricultural operations) would occur under this alternative, the potential for hazardous material release on the Project site would be eliminated. For all these reasons, this impact would be reduced when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, with the design and construction of improvements included in the proposed storm drainage system, the proposed Project would not increase peak stormwater runoff. The proposed Project, along with several of the related projects within the City of Riverbank, would ultimately discharge stormwater runoff to on-site detention basins, the City's system of MID Laterals, the Stanislaus River, or the groundwater basin. This would potentially degrade the water quality of the system. The proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge, or result in significant impacts related to flooding.

Construction of the proposed Project would contribute to a cumulative increase in urban pollutant loading, which could adversely affect water quality. Cumulative development in the Riverbank area, including the proposed Project, would also result in increased impervious surfaces that could increase the rate and amount of runoff, thereby potentially adversely affecting existing surface water quality through increased erosion and sedimentation. The primary sources of water pollution include: runoff from roadways and parking lots; runoff from landscaping areas; non-stormwater connections to the drainage system; accidental spills; and illegal dumping. Runoff from roadway and parking lots could contain oil, grease, and heavy metals; additionally, runoff from landscaped areas could contain elevated concentrations of nutrients, fertilizers, and pesticides. The proposed Project will be required to comply with Mitigation Measure 3.9-1 which requires the development and approval of a Stormwater Pollution Prevention Plan (SWPPP).

The proposed Project would replace agricultural water uses with urban water uses. The net change in water demand derived from this conversion is the difference between the existing agricultural baseline demand (i.e., the water demand resulting from the No Project [No Build] Alternative) and water demand from development within the Plan Area.

Under the No Project (No Build) Alternative, potential water quality impacts from construction and operation of the proposed Project would be eliminated. While groundwater recharge is not considered a significant impact under the proposed Project, under this alternative, the land will be

kept in its present state with most of the Project site being used for agricultural purposes. The Project Area has soils with hydrologic ratings of "A," "C," and "D." Group "A" soils have low runoff potential when thoroughly wet, Group "C" soils have moderately high runoff potential when thoroughly wet, and Group "D" soils have high runoff potential when thoroughly wet.

The current uses in the Project Area are predominantly agricultural operations, including almond and walnut orchards in the eastern/southeastern portion of the Project Area and cherry orchards and fallow land in the western/central portion of the Project Area. The Modesto Irrigation District (MID) provides the water supply for the existing agricultural uses and maintains two easements in the Project Area. A MID main canal with a crossing is located approximately 950 feet to the west and approximately 0.45 miles to the east of the intersection of Patterson Road and Coffee Road in the southern portion of the Project Area. The canal enters in the southwest portion of the Project Area and runs to the northeast eventually curving to exit the Project Area in the southeast. A series of private irrigation ditches and pipes distribute the MID water from the on-site canals throughout the Project Area for agricultural use. Much of the land is irrigated with the use of level basins allowing agricultural water users to retain all irrigation water applied on-farm within the parcels' boundaries.

Surface water pollution is also caused by erosion resulting from agricultural operations. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

The No Project (No Build) Alternative would have a greater chance of groundwater recharge because it would not introduce large areas of impervious surfaces as would the proposed Project. As such, potential impacts related to hydrology and water quality would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

Land Use, Population, and Housing

The City of Riverbank General Plan assumes that, after LAFCO approves annexation, development of the Specific Plan Area will occur, and the General Plan has designated lands within the Specific Plan Area for development and urban uses on its Land Use Map. The direct population growth shown is consistent with planned growth for Riverbank. Additionally, in the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. The areas outside the Specific Plan Area which contain home sites, but within the SOI boundary, would not be developed under the proposed Project. Development of the Project would remove some of the housing units onsite, and add up to 2,432 residential units. Therefore, the Project would more than replace the housing that would be removed and would not displace substantial numbers of people or existing housing. The Project would require a zoning and

General Plan amendment for land use changes, as well as annexation to the City of Riverbank. However, impacts to land use are considered less than significant.

The No Project (No Build) Alternative would not result in changes to on-site land uses and would not result in development of the site. Under this alternative, the Plan Area would not be annexed to the City and would remain subject to County planning indefinitely. Because the No Project (No Build) Alternative would not add any additional population and would not changes land use patterns, impacts related to land use, population, and housing would be reduced when compared to the proposed Project.

Noise

The proposed Project could increase noise-generating activities associated with the maintenance and operation of the proposed Project, as well as from vehicular traffic. Mitigation measures provided in Section 3.11 would reduce some potential impacts to a less than significant level. However, impacts associated with generation of unacceptable construction and traffic noise levels at existing receptors would remain significant and unavoidable.

Under the No Project (No Build) Alternative, the Project site would not be developed and there would be no potential for new noise sources. As such, this impact would be reduced when compared to the proposed Project.

Public Services and Recreation

Under the No Project (No Build) Alternative, the Project site would remain undeveloped and there would be no increased demand for public services or recreation. The recreational amenities within the proposed Project, however, would not be developed for community use. The No Project (No Build) Alternative would have a reduced impact when compared to the proposed Project because demand on public services would be reduced with compared to the proposed Project, except for recreational park facilities.

Transportation and Circulation

The No Project (No Build) Alternative would not introduce additional vehicle trips onto the study area roadways. With regards to residential development, because no relatable forecasts for the City of Riverbank or Stanislaus County are available, it is not possible to determine whether the Specific Plan's residences will generate VMT per capita rate that is 15 percent below the current area average, as recommended under the OPR directive. With regards to non-residential uses, the net increase in regional VMT caused by the Specific Plan's non-residential uses is the difference between the overall difference in total regional VMT (195,160 VMT) and the VMT caused by residential uses (74,640 VMT) is 120,520 VMT. This increase exceeds the OPR directive's threshold of no net increase in regional VMT. With regards to residential development, because no relatable forecasts for the City of Riverbank or Stanislaus County are available, it is not possible to determine whether the Specific Plan's residences will generate VMT per capita rate that is 15 percent below the current area average, as required under the OPR directive. Thus, it must be presumed that the VMT impact

of the proposed residences is potentially significant. Mitigation was identified to alleviate identified impacts; however, certain impacts were deemed to be significant and unavoidable.

Under the No Project (No Build) Alternative, these potential impacts would be avoided, and the No Project (No Build) Alternative would have a reduced traffic impact when compared to the proposed Project.

Utilities

Implementation of the proposed Project would result in increased flows to the public wastewater system. The proposed Specific Plan would require sewer allocation for each phase of development as the phase is constructed through 2040. Allocation of available sewer capacity is provided by the City at the time payment of the appropriate connection fees is made to the City to cover a pro-rata fair share of the capital cost for the sewer capacity. The WWTP upgrades, if built, are anticipated to increase capacity of the plant by 0.69 mgd, of which the proposed Specific Plan will require 0.64 mgd at buildout. The first 5-10 years of construction phases may be adequately served by the WWTP upgrades that add 0.69 mgd; however, it may be necessary for additional WWTP upgrades based on other development that occurs throughout the City. Overall, the Specific Plan's capacity needs may exceed the wastewater discharge requirements from the wastewater treatment provider, which will depend on future project demands and WWTP upgrade implementation. WWTP upgrades are dependent on financing, as well, as design, engineering, and construction schedule that is not yet secure. Mitigation limits construction to only those units that have secured capacity to ensure that there is not an exceedance of the sewer capacity.

Implementation of the proposed Project would result in increased demand for potable water. The total water supplies projected to be available in 2040 in all year types (15,944 AF) satisfies the projected potential water demand in 2040 in all year types. With the projection of supply and demand presented previously for 2045, the total water supplies projected to be available in 2045 in all year types (15,944 AF) satisfies the projected potential water demand in 2040 in all year types. Therefore, the City is projected to have a range of approximately 9,316 AF to 9,481 of unallocated water supply in 2045 under all water year types. The future anticipated unallocated water supply significantly exceeds the 1,078 AFY total water demand of the Project. Demand within the City's service area is not expected to exceed the City's supplies in any normal year between 2025 and 2045. Pursuant to Water Code section 10910(c)(4), and based on the technical analyses described in the Water Supply Assessment, the total projected water supplies documented to be available for the Project during Normal, Single Dry, and Multiple Dry water years during a 20-year projection are more than sufficient to meet the projected water demand associated with the Project, in addition to existing and planned future uses. The City has adequate water supply to handle the increased demand with their existing supply and infrastructure.

Implementation of the proposed Project would result in increased storm drainage from new impervious surfaces. Onsite storm drainage would be installed to serve the proposed Project. A standalone drainage system that will detain all storm water runoff on-site in detention basins is proposed. Because of the greenfield/rural residential designation within the Low Impact Development Design and Specifications Manual, maintaining existing hydrological conditions by

conserving natural areas and existing drainage features is an important consideration, where possible. Impervious hardscape surfaces (i.e., conventional roofs and paving) will be designed to discharge to pervious areas to help filter and infiltrate the stormwater runoff. To further aid infiltration, native soil compaction in landscaped areas will be minimized. Construction of the Specific Plan is anticipated to be phased and will be directed by demand and need. Because of this, temporary basins will be needed to handle storm water runoff until the permanent facilities are constructed. Water levels will not exceed four feet with two feet of freeboard for the temporary storm drain basins.

All new construction projects in the City of Riverbank are classified in the Low Impact Development Design and Specifications Manual based on their intended use (i.e., residential, Mixed Use, parking areas, etc.). The proposed Specific Plan has been designed with this in mind and features linear park drainage basins running throughout the Project Area. Treatment and attenuation of flows throughout the Project Area can be achieved by draining sidewalks to vegetated filter strips, constructing parking lots with permeable pavement, and outletting roof leaders to the surface of a bio-retention area.

The installation of the improvements will be within the footprint of the Specific Plan Area. Some physical impacts associated with development in the Specific Plan, such as agricultural conversion, etc., have been analyzed throughout this EIR. For some environmental topics it was determined that the Specific Plan would have a significant and unavoidable impact (i.e., loss of prime farmland). The installation of improvements would contribute to physical impacts. The project will be required to implement the mitigation measures under each physical environmental impact identified. The topic does not require separate mitigation. The proposed Project includes a storm drainage collection system to handle the increased storm drainage.

Implementation of the proposed Project would result in increased generation of solid waste. However, the landfill has adequate capacity to dispose the solid waste.

Under the No Project (No Build) Alternative, the Project site would not increase the demand for any utilities, including wastewater services, potable water supplies, or solid waste disposal. There would be no need to construct stormwater drainage infrastructure. Overall, the demand for utilities would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

INCREASED DENSITY ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, the visual character of the Project site would be significantly altered because of Project implementation. Implementation of the proposed Design Guidelines and landscaping requirements, and consistency with the General Plan and the Riverbank Zoning Ordinance, would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

These impacts would be similar with the Increased Density Alternative as this alternative is located on the same site and would have similar uses. This alternative would result in the same number of residential units, the same development footprint, and the same amount of commercial/retail uses. The impacts of light and glare would still occur and could be mitigated to a less than significant level. The impacts to the existing visual quality would be like the proposed Project as most of the Project site would be developed with the same uses as under the proposed Project, just at a higher density. However, this alternative would cluster the residential and mixed uses in the central and southern portions of the Project site at increased densities to allow for an increase in park areas in the northwestern portion of the Plan Area. Further, under this alternative, the proposed Mixed Use areas near the northwestern Plan Area entry point would be relocated along Patterson Road where the other proposed Mixed Use areas are proposed. Due to the increase in park areas, clustering of urban uses, and modification of the northwestern entry point, the Increased Density Alternative would have a reduced impact on visual resources when compared to the proposed Project.

Agricultural Resources

Currently, most of the Project site is used for agricultural purposes. Under the Increased Density Alternative, the total development footprint would be equal to the proposed Specific Plan. As such, an equal amount of the Project site would be converted from agricultural use to urban use. As such, this alternative would have equal the impacts to agricultural lands when compared to the proposed Project. It is noted that the loss of the agricultural land, including Prime Farmland, would be a significant and unavoidable impact under both the Increased Density Alternative and the proposed Project. Overall, the Increased Density Alternative would have similar impacts on agricultural resources when compared to the proposed Project.

Air Quality

As described in Section 3.3, Stanislaus County has a state designation of Nonattainment for O_3, PM_{10}, and $PM_{2.5}$ and is either Unclassified or Attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone and $PM_{2.5}$. The County is designated either attainment or unclassified for the remaining national standards. Table 3.3-2 in Section 3.3 presents the state and federal attainment status for Stanislaus County.

As discussed under Impact 3.3-1 in Section 3.3, the proposed Project would result in increased emissions. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, nitrogen oxides NO_X, and PM_{10} exceed the SJVAPCD thresholds of significance. The proposed Project would be required to implement Mitigation Measure 3.3-1 which would ensure that individual Projects within the footprint of the proposed Project would reduce emissions to less the applicable SJVAPCD thresholds of significance.

The proposed Project is subject to the SJVAPCD Rule 9510 (ISR), which could result in substantial mitigation of NO_X and associated ROG emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through Project mitigation commitments. The current fees are $9,350 per ton of NO_X. The actual calculations will be determined and finalized by the SJVAPCD and Project applicants as individual projects are brought forward for approval under Rule 9510.

Implementation of the proposed Project would cause an increase in criteria air pollutants, and area and mobile source emissions are the dominant sources of air emissions associated with the proposed Project. Under the Increased Density Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the density of the residential uses would be increased, and the residential and mixed use areas would be clustered in the southern and central portions of the Plan Area. Additionally, the amount of parkland would increase, while the development footprint would be equal to the proposed Specific Plan. Because construction emissions are directly correlated to the size of the construction footprint, the construction-related emissions would be similar under this alternative when compared to the proposed Project.

The total operational development, including residential units and non-residential building square footage, would be equal to the proposed Project. However, as shown in Table 5.0-1, the trip rate for medium and high density residential units is less than for low density residential units. Under the Increased Density Alternative, the same number of residential units as the proposed Project (2,432 – to 2,682 units) would be constructed. However, this alternative would include development of 50% medium and high density units, and 50% low density units. Therefore, the amount of traffic generated from the Project site would be reduced under this alternative and the proposed Project. Like the proposed Project, transit would be provided to the site. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the increased trip volume would result in an increased amount of the mobile source emissions. It is noted that the area source emissions would be like the Project.

TABLE 5.0-1: TRIP GENERATION RATES

ITE CODE	*DESCRIPTION*	*QUANTITY*	*DAILY*
820	MU Retail – (1) (315 ksf)	ksf	41.64
820	MU Retail – (2) (85 ksf)	ksf	63.33
820	MU Retail – (6) (45 ksf)	ksf	77.62
820	MU Retail – (5) (820 average)	ksf	37.75
710	General Office	ksf	9.74
720	Medical Dental Office	ksf	34.80
210	LDR/MDR Residential (Detached Single Family Residential)	dwelling	9.44
220	HDR / MU Residential Multi-Family	dwelling	7.32
251	Senior Detached Housing	dwelling	4.27

252	Senior Attached Housing	dwelling	3.70
495	Recreational Community Center	ksf	28.82

Uses in the Increased Density Alternative would be required to adhere to the same mitigation measures as the proposed Project. Overall, the Increased Density Alternative would result in reduced air emissions when compared to the proposed Project.

Biological Resources

As described in Section 3.4, Biological Resources, construction on the Project site has the potential to result in impacts to special-status species in the region. The Project site provides potential habitat for several species, including those discussed in Section 3.4. Through the implementation of various mitigation measures found in Section 3.4, implementation of the proposed Project will have a less than significant impact on biological resources, except for impacts to Swainson's hawk which would be significant and unavoidable with mitigation.

The Increased Density Alternative would result in development of the same area as the proposed Specific Plan, but the residential densities would be increased. Under this alternative, the residential and mixed use areas would be clustered throughout the central and southern portions of the Project site at increased densities to allow for an increase in park areas. Depending on the location, the increase in park areas could continue to provide habitat (i.e., trees and ball fields) for species. As such, the Increased Density Alternative would result in reduced impacts to biological resources when compared to the proposed Project.

Cultural and Tribal Resources

As discussed in Section 3.5, Cultural and Tribal Resources, there are two significant prehistoric period resources within the Berghill Boundary area: ML-20-02 and ML-20-03, that may contain information related to the prehistoric use and occupancy of the sites. Mitigation Measure 3.5-1 addresses the potential impacts to these two significant prehistoric period resources. Any previously unknown cultural and/or tribal resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Impacts related to substantial adverse changes to an historical resource as defined in CEQA Guidelines §15064.5, a unique archaeological resource as defined in Public Resources Code section 21083.2, or a tribal cultural resource, as defined in Public Resources Code §21074, would be significant and unavoidable with mitigation. Impacts related to disturbance of human remains, including those interred outside of formal cemeteries, would be less than significant with mitigation.

The Increased Density Alternative would result in development of the entire Project site, but the residential densities would be increased and the amount of parkland would be increased. Under this alternative, the same amenities and uses would be developed, and the total disturbance area would be equal to the Project. This would result in an equal potential to disturb or destroy cultural, tribal, historic, and archaeological resources. The proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation; the Increased Density Alternative would result in an equal potential for impacts to cultural resources.

Geology and Soils

As described in Section 3.6, implementation of the proposed Project would result in the construction of new structures on the Project site. The new structures would be subject to seismic, geologic, and soils hazards for the life of the Project. Mostly notably, the proposed Project would be subject to liquefaction, liquefaction induced settlement, and lateral spreading. Mitigation measures identified in Section 3.6 would reduce the potential impacts to a less than significant level.

Under the Increased Density Alternative, the amount of developed area would be equal to the Project, and an equal number of structures would be subject to hazardous geological conditions. Because this alternative would have an equal disturbance area as the proposed Project, this alternative would result in an equal potential for loss of topsoil and soil erosion compared to the Project. The proposed Project is not anticipated to result in significant impacts from geology and soils with mitigation; the Increased Density Alternative would result in an equal potential for impacts related to geology and soils when compared to the proposed Project.

Greenhouse Gases, Climate Change, and Energy

As stated previously, implementation of the proposed Project would generate GHG emissions that would not otherwise exist without the proposed Project, although, as the California Supreme Court has said, "the future residents and occupants of development enabled by Project approval would exist and live somewhere else if this Project is not approved. Whether 'here or there,' GHG emissions associated with such population growth will occur." (*Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, 219.) Short-term construction emissions of GHGs are estimated at a maximum of approximately 3,395.1 MT CO2e per year. The annual mitigated GHG emissions associated with the proposed Project would be approximately 30,136 MT CO2e. The proposed Project would not conflict with any of the GHG reduction measures contained with the CARB's 2017 Scoping Plan Update and the SJCOG's 2018 RTP/SCS, as provided above. Therefore, the proposed Project would be consistent with the State GHG reduction targets, and would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The proposed Project's criteria pollutant emissions would be considered to have a less than significant impact.

On a Project-by-Project case, the City of Riverbank evaluates a Project and the potential to impose Project-specific mitigation, which has been done through this GHG analysis. However, the proposed Project would have an individual and cumulative impact that is significant and unavoidable.

Under the Increased Density Alternative, the Project site would be developed with the same types of uses and structures as the proposed Project, but the residential densities would increase and the amount of parkland would increase.

However, as shown in Table 5.0-1, the trip rate for medium and high density residential units are less than for low density residential units. Under the Increased Density Alternative, the same number of residential units as the proposed Project (2,432 – to 2,682 units) would be constructed. However, this alternative would include development of 50 percent medium and high density units,

and 50 percent low density units. Therefore, the amount of traffic generated from the Project site would be reduced under this alternative and the proposed Project. The decreased traffic would result in a decrease in mobile emissions.

The decrease in low density residential units and associated increase in medium and high density residential units would result in an increased level of operational greenhouse gas emissions when compared to the proposed Project. Because construction greenhouse gas emissions are directly correlated to the size of the construction footprint, the construction-related emissions would be equal under this alternative when compared to the proposed Project. As such, the greenhouse gas emissions impact would be equal when compared to the proposed Project.

Hazards and Hazardous Materials

The proposed Project includes components which will likely use a variety of common household hazardous materials including: paints, cleaners, and cleaning solvents. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by the Stanislaus County Division of Environmental Resources and the Stanislaus Consolidated Fire Protection District.

Under the Increased Density Alternative, the range of residential and non-residential uses on the site would not change when compared to the proposed Project. This alternative would still use the hazardous materials identified under the proposed Project. As such, this alternative would have equal impacts from hazards and hazardous materials impacts when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, with the design and construction of improvements included in the proposed storm drainage system, the proposed Project would not increase peak stormwater runoff. The proposed Project, along with several of the related projects within the City of Riverbank, would ultimately discharge stormwater runoff to on-site detention basins, the City's system of MID Laterals, the Stanislaus River, or the groundwater basin. This would potentially degrade the water quality of the system. The proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge, or result in significant impacts related to flooding.

Under the Increased Density Alternative, potential construction-related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be comparable to the proposed Project. However, this alternative would increase the amount of parkland compared to the proposed Project. The increase in parkland under this alternative would remain pervious to precipitation, which would facilitate groundwater recharge and the natural biofiltration of stormwater. This alternative would still include stormwater detention/basins, and provide natural BMPs to reduce pollutants in stormwater runoff. As such, potential impacts related to hydrology and water quality would be reduced under the Increased Density Alternative when compared to the proposed Project.

Land Use, Population, and Housing

The City of Riverbank General Plan assumed that, after LAFCO approves annexation, development of the Specific Plan Area would occur; and the General Plan has designated lands within the Specific Plan Area for development and urban uses on its Land Use Map. The direct population growth shown is consistent with planned growth for Riverbank. Additionally, in the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. The areas outside the Specific Plan Area which contain home sites, but within the SOI boundary, would not be developed under the proposed Project. Development of the Project would remove some of the housing units onsite, and add up to 2,432 residential units. Therefore, the Project would more than replace the housing that would be removed and would not displace substantial numbers of people or existing housing. The Project would require a zoning and General Plan amendment for land use changes, as well as annexation to the City of Riverbank. However, impacts to land use are considered less than significant.

The Increased Density Alternative is not expected to induce substantial population growth in the area. In the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. Like the proposed Project, development of the Increased Density Alternative would remove these housing units onsite, and add up to 2,682 new residential units. Therefore, impacts relating to land use, population and housing would be equal under this alternative.

Noise

The proposed Project could increase noise-generating activities associated with the maintenance and operation of the proposed Project, as well as from vehicular traffic. Mitigation measures provided in Section 3.11 would reduce nearly all potential impacts to a less than significant level. However, impacts associated with generation of unacceptable construction and traffic noise levels at existing receptors would remain significant and unavoidable.

The Increased Density Alternative would result in the same number of residential units and the same amount of commercial buildings as the Project; therefore, the noise impacts associated with the alternative would be equal to the vehicular and operational activities of the proposed Project. All noise issues would be mitigated, as appropriate, through noise attenuation and best management practices; therefore, under this alternative, noise impacts would be equal when compared to the proposed Project.

Public Services and Recreation

Development in the Plan Area will be required to pay all applicable fees and assessments required to fund its fair share of public services and recreation. This funding would assist in the development of facilities to meet the City's standards. The proposed Project would have a less than significant

impact to fire, police, and schools. Impacts related to recreational facilities would be significant and unavoidable under the Project.

Under the Increased Density Alternative, most of the site would be developed with the same range of allowable uses as described in the Project Description, and the size of the residential and non-residential components would be equal. Due to the similar population growth anticipated because of the Project and the Increased Density Alternative, the demand for fire protection, police protection, schools, and recreational facilities would be like the Project. As such, public services and recreation impacts would be equal when compared to the proposed Project.

Transportation and Circulation

As described in Section 3.13, with regards to residential development, because no relatable forecasts for the City of Riverbank or Stanislaus County are available, it is not possible to determine whether the Specific Plan's residences will generate VMT per capita rate that is 15 percent below the current area average, as recommended under the OPR directive. With regards to non-residential uses, the net increase in regional VMT caused by the Specific Plan's non-residential uses is the difference between the overall difference in total regional VMT (195,160 VMT) and the VMT caused by residential uses (74,640 VMT) is 120,520 VMT. This increase exceeds the OPR directive's threshold of no net increase in regional VMT. Thus, it must be presumed that the VMT impact of the proposed residences is potentially significant. Mitigation was identified to alleviate identified impacts; however, certain impacts were deemed to be significant and unavoidable.

As noted above, the total development, including residential units and non-residential building square footage, would be equal to the proposed Project under this alternative. However, as shown in Table 5.0-1, the trip rate for medium and high density residential units are less than for low density residential units. Under the Increased Density Alternative, the same number of residential units as the proposed Project (2,432 – to 2,682 units) would be constructed. However, this alternative would include development of 50% percent medium and high density units, and 50% percent low density units. Therefore, the amount of traffic generated from the Project site, and thus total VMT, would be reduced under this alternative and the proposed Project. Uses in the Increased Density Alternative would be required to adhere to the same mitigation measures as the proposed Project; therefore, under this alternative, transportation and circulation impacts would be reduced when compared to the proposed Project.

Utilities

Implementation of the proposed Project would result in increased flows to the public wastewater system. The proposed Specific Plan would require sewer allocation for each phase of development as the phase is constructed through 2040. Allocation of available sewer capacity is provided by the City at the time payment of the appropriate connection fees is made to the City to cover a pro-rata fair share of the capital cost for the sewer capacity. The WWTP upgrades, if built, are anticipated to increase capacity of the plant by 0.69 mgd, of which the proposed Specific Plan will require 0.64 mgd at buildout. The first 5-10 years of construction phases may be adequately served by the WWTP upgrades that add 0.69 mgd; however, it may be necessary for additional WWTP upgrades based on other development that occurs throughout the City. Overall, the Specific Plan's capacity needs may

exceed the wastewater discharge requirements from the wastewater treatment provider, which will depend on future project demands and WWTP upgrade implementation. WWTP upgrades are dependent on financing, as well, as design, engineering, and construction schedule that is not yet secure. Mitigation limits construction to only those units that have secured capacity to ensure that there is not an exceedance of the sewer capacity.

Implementation of the proposed Project would result in increased demand for potable water. Pursuant to Water Code section 10910(c)(4), and based on the technical analyses described in the Water Supply Assessment, the total projected water supplies documented to be available for the Project during Normal, Single Dry, and Multiple Dry water years during a 20-year projection are more than sufficient to meet the projected water demand associated with the Project, in addition to existing and planned future uses.

Implementation of the proposed Project would result in increased storm drainage from new impervious surfaces. Onsite storm drainage would be installed to serve the proposed Project. All new construction projects in the City of Riverbank are classified in the Low Impact Development Design and Specifications Manual based on their intended use (i.e., residential, Mixed Use, parking areas, etc.). The proposed Specific Plan has been designed with this in mind and features linear park drainage basins running throughout the Project Area. Treatment and attenuation of flows throughout the Project Area can be achieved by draining sidewalks to vegetated filter strips, constructing parking lots with permeable pavement, and outletting roof leaders to the surface of a bio-retention area.

Further, implementation of the proposed Project would result in increased generation of solid waste. However, the landfill has adequate capacity to dispose the solid waste.

Under the Increased Density Alternative, the proposed Project would be developed with the same components as described in the Project Description, and the size of the residential and non-residential components would be equal. The residential areas would be clustered throughout the Project site at increased densities to allow for a decrease in the total development area. The Mixed Use areas are estimated to generate roughly 2.5 pounds of solid waste per day per 1,000 square feet. Mixed Use water use factors and wastewater generation factors are shown in Tables 5.0-2 and 5.0-3. Because the same amount of Mixed Use areas would be provided under this alternative, the Mixed Use areas would result in the same water demand, wastewater generation, and solid waste generation. Typical single-family residential (Low Density) is estimated to generate roughly 10 pounds of solid waste per day per household. Typical multi-family residential (Medium and High Density) is estimated to generate roughly 5.31 pounds of solid waste per day per household. Under the Increased Density Alternative, the same number of residential units as the proposed Project (2,432 – to 2,682 units) would be constructed. However, this alternative would include development of 50% percent medium and high density units, and 50% percent low density units. Because this alternative would increase the amount of medium and high density residential units and decrease the amount of low density residential units compared to the proposed Project, the associated solid waste generation for the residential areas would decrease. Overall, solid waste generation from this alternative would decrease.

Water demand factors are shown in Table 5.0-2, and wastewater generation factors are shown in Table 5.0-3. As shown in Table 5.0-2, water demand factors for low density residential units are higher than the water demand factors for both medium and high density residential units. Like solid waste, because this alternative would increase the amount of medium and high density residential units and decrease the amount of low density residential units compared to the proposed Project, the associated water demand for the residential areas would decrease. However, because the park areas would increase compared to the proposed Project because of the clustering of residential areas, the park area water demand would increase. Overall, the water demand would be like the proposed Project.

As shown in Table 5.0-3, wastewater generation factors for low density residential units are lower than the water demand factors for both medium and high density residential units. Like solid waste, because this alternative would increase the amount of medium and high density residential units and decrease the amount of low density residential units compared to the proposed Project, the associated wastewater generation for the residential areas would increase. Additionally, because the park areas would increase compared to the proposed Project because of the clustering of residential areas, the park area wastewater generation would increase. Overall, the wastewater generation would increase compared to the proposed Project.

TABLE 5.0-2: WATER USE FACTORS

LAND USE DESIGNATION	*WATER USE FACTOR*
Buffer/Greenway/Open Space - Bluff	0 gpd/ac
Buffer/Greenway/Open Space - Canal	0 gpd/ac
Buffer/Greenway/Open Space – River Park	0 gpd/ac
High Density Residential[1]	435 gpd/DU
Low Density Residential[1]	625 gpd/DU
Medium Density Residential[1]	600 gpd/DU
Mixed Use	2,000 gpd/ac
Park	2,500 gpd/ac
Park – Ponding Basin	2,500 gpd/ac
Reserve	0 gpd/ac
ROW	0 gpd/ac

NOTES: GPD/AC = GALLONS PER DAY PER ACRES, GPD/DU = GALLONS PER DAY PER DWELLING UNIT.

[1] RESIDENTIAL WATER USE FACTORS ARE BASED ON THE CITY'S 2007 WATER MASTER PLAN. SEVERAL WATER CONSERVATION RULES HAVE BEEN ENACTED SINCE 2007. AS SUCH, THE RESIDENTIAL WATER USE FACTORS ARE CONSIDERED CONSERVATIVE AS THEY DO NOT REFLECT CURRENT CONSERVATION MEASURES.

SOURCE: WATER SUPPLY ASSESSMENT – RIVER WALK SPECIFIC PLAN (WEST YOST ASSOCIATES, 2022).

TABLE 5.0-3: WASTEWATER GENERATION FACTORS

LAND USE	*GENERATION FACTOR (GPD/AC)*
LDR – Low Density Residential	1,500
MDR – Medium Density Residential	2,500
HDR – High Density Residential	4,000
MU – Mixed-Use (outside of community core)	1,760
MU – Mixed-Use (inside of community core)	1,760
MU – Mixed-Use (Clubhouse)	1,760
Park	400

B/G/OS - Bluff	--
B/G/OS - Canal	--
B/G/OS - River Park[1]	--
Park - Ponding Basin[1]	--
Reserve	--
ROW	--

NOTES: GPD/AC = GALLONS PER DAY PER ACRES
[1]THE "MULTI USE RECREATION" GENERATION FACTOR WAS USED FOR THESE LAND USES.
SOURCE: SEWER COLLECTION SYSTEM MASTER PLAN (2007), TABLE 4-3.

It is noted that uses in the Increased Density Alternative would be required to adhere to the same mitigation measures as the proposed Project, and the equal amount of square footage would result in similar utility demands. The Increased Density Alternative would result in similar demand on utility systems when compared to the proposed Project.

Overall, this alternative would have increased wastewater treatment demand, similar water demand, decreased solid waste generated, and similar storm water runoff when compared to the proposed Project. As such, this alternative would have equal impacts when compared to the proposed Project.

LOWER DENSITY ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, the visual character of the Project site would be significantly altered because of Project implementation. Implementation of the proposed Design Guidelines and landscaping requirements, and consistency with the General Plan and the Riverbank Zoning Ordinance, would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

Under the Lower Density Alternative, portions of the Project site that are currently agricultural land would be converted to urban uses. As such, there would still be an impact to the visual character under this alternative. The impact associated with increased light and glare in the developed area would be mitigated. Under this alternative, the changes to the existing visual quality would be like the proposed Project as the entire site would be developed with the same amount of residential and non-residential uses. As such, this alternative would have similar impacts as the proposed Project.

Agricultural Resources

Currently, most of the Project site is used for agricultural purposes. The Lower Density Alternative would result in development of the entire 997-acre Project site. While this alternative would promote larger lot sizes and reduce the number of residential units compared to the Project, the entire Project site would still be converted from agricultural use. As such, this alternative would not reduce the impacts to agricultural lands when compared to the proposed Project. The loss of the agricultural land, including Prime Farmland, would be a significant and unavoidable impact under both the Lower Density Alternative and the proposed Project. Therefore, the Lower Density Alternative would have equal impacts on agricultural resources when compared to the proposed Project.

Air Quality

As described in Section 3.3, Stanislaus County has a state designation of nonattainment for O_3, PM_{10}, and $PM_{2.5}$ and is either Unclassified or Attainment for all other criteria pollutants. The County has a national designation of Nonattainment for ozone and $PM_{2.5}$. The County is designated either attainment or unclassified for the remaining national standards. Table 3.3-2 in Section 3.3 presents the state and federal attainment status for Stanislaus County.

As discussed under Impact 3.3-1 in Section 3.3, the proposed Project would result in increased emissions. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, nitrogen oxides NO_X, and PM_{10} exceed the SJVAPCD thresholds of significance. The proposed Project would be required to implement Mitigation Measure 3.3-1 which would ensure that individual Projects within the footprint of the proposed Project would reduce emissions to less the applicable SJVAPCD thresholds of significance.

The proposed Project is subject to the SJVAPCD Rule 9510 (ISR), which could result in substantial mitigation of NO_X and associated ROG emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through Project mitigation commitments. The current fees are $9,350 per ton of NO_X. The actual calculations will be determined and finalized by the SJVAPCD and Project applicants as individual projects are brought forward for approval under Rule 9510.

Implementation of the proposed Project would cause an increase in criteria air pollutants, and area and mobile source emissions are the dominant sources of air emissions associated with the proposed Project. Under the Lower Density Alternative, the number of residential units constructed in the Plan Area would be reduced by 25 percent compared to the proposed Project. Under the proposed Project, 2,432 to 2,682 residential units would be constructed; this alternative would result in construction of 1,824 to 2,011 units. Therefore, the amount of traffic generated from the Project site would be reduced under this alternative and the proposed Project. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the reduced trip volume would result in a reduced amount of mobile source emissions. Additionally, the area source emissions would be reduced compared to the Project.

Uses in the Lower Density Alternative would be required to adhere to the same mitigation measures as the proposed Project. The Lower Density Alternative would result in reduced air emissions when compared to the proposed Project.

Biological Resources

As described in Section 3.4, Biological Resources, construction on the Project site has the potential to result in impacts to special-status species in the region. The Project site provides potential habitat for several species, including those discussed in Section 3.4. Through the implementation of various mitigation measures found in Section 3.4, implementation of the proposed Project will have a less than significant impact on biological resources, except for impacts to Swainson's hawk which would be significant and unavoidable with mitigation.

The Lower Density Alternative would result in development of the entire Project site. Under this alternative, the same amenities and uses would be developed. As such, the Lower Density Alternative would result in similar impacts to biological resources when compared to the proposed Project.

Cultural and Tribal Resources

As discussed in Section 3.5, Cultural and Tribal Resources, there are two significant prehistoric period resources within the Berghill Boundary area: ML-20-02 and ML-20-03, that may contain information related to the prehistoric use and occupancy of the sites. Mitigation Measure 3.5-1 addresses the potential impacts to these two significant prehistoric period resources. Any previously unknown cultural and/or tribal resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Impacts related to substantial adverse changes to an historical resource as defined in CEQA Guidelines §15064.5, a unique archaeological resource as defined in Public Resources Code section 21083.2, or a tribal cultural resource, as defined in Public Resources Code §21074, would be significant and unavoidable with mitigation. Impacts related to disturbance of human remains, including those interred outside of formal cemeteries, would be less than significant with mitigation.

The Lower Density Alternative would result in development of the entire Project site, but a reduction in density of the residential areas. Under this alternative, the same amenities and uses would be developed. This would result in a similar potential to disturb or destroy cultural, tribal, historic, and archaeological resources. While the proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation, the Lower Density Alternative would result in a similar potential for impacts to cultural resources.

Geology and Soils

As described in Section 3.6, implementation of the proposed Project would result in the construction of new structures on the Project site. The new structures would be subject to seismic, geologic, and soils hazards for the life of the Project. Mostly notably, the proposed Project would be subject to

liquefaction, liquefaction induced settlement, and lateral spreading. Mitigation measures identified in Section 3.6 would reduce the potential impacts to a less than significant level.

Under the Lower Density Alternative, the amount of developed area would be like the Project, but a reduced number of structures would be subject to hazardous geological conditions. While the proposed Project is not anticipated to result in significant impacts from geology and soils with mitigation, the Lower Density Alternative would result in reduced potential for impacts when compared to the proposed Project.

Greenhouse Gases, Climate Change, and Energy

As stated previously, implementation of the proposed Project would generate GHG emissions that would not otherwise exist without the proposed Project, although, as the California Supreme Court has said, "the future residents and occupants of development enabled by Project approval would exist and live somewhere else if this Project is not approved. Whether 'here or there,' GHG emissions associated with such population growth will occur." (*Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, 219.).

Short-term construction emissions of GHGs are estimated at a maximum of approximately 3,395.1 MT CO_2e per year. The annual mitigated GHG emissions associated with the proposed Project would be approximately 30,136 MT CO_2e. The proposed Project would not conflict with any of the GHG reduction measures contained with the CARB's 2017 Scoping Plan Update and the SJCOG's 2018 RTP/SCS, as provided above. Therefore, the proposed Project would be consistent with the State GHG reduction targets, and would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The proposed Project's criteria pollutant emissions would be considered to have a less than significant impact.

On a Project-by-Project case, the City of Riverbank evaluates a Project and the potential to impose Project-specific mitigation, which has been done through this GHG analysis. However, the proposed Project would have an individual and cumulative impact that is significant and unavoidable.

Under the Lower Density Alternative, the Project site would be developed with the same types of uses and structures as the proposed Project, but the number and density of residential units would decrease. The reduced number of residential units would result in a corresponding reduced level of greenhouse gas emissions when compared to the proposed Project. As such, the greenhouse gas emissions impacts would be reduced when compared to the proposed Project.

Hazards and Hazardous Materials

The proposed Project includes components which will likely use a variety of common household hazardous materials including: paints, cleaners, and cleaning solvents. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by the Stanislaus County Division of Environmental Resources and the Stanislaus Consolidated Fire Protection District.

Under the Lower Density Alternative, the range of residential and non-residential uses on the site would not change when compared to the proposed Project. This alternative would still use the hazardous materials identified under the proposed Project. As such, this alternative would have equal impacts from hazards and hazardous materials impacts when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, with the design and construction of improvements included in the proposed storm drainage system, the proposed Project would not increase peak stormwater runoff. The proposed Project, along with several of the related projects within the City of Riverbank, would ultimately discharge stormwater runoff to on-site detention basins, the City's system of MID Laterals, the Stanislaus River, or the groundwater basin. This would potentially degrade the water quality of the system. The proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge, or result in significant impacts related to flooding.

Under the Lower Density Alternative, potential construction-related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be comparable to the proposed Project. The increased areas of lot sizes and associated front and backyard areas under this alternative will remain pervious to precipitation, which will facilitate groundwater recharge and the natural biofiltration of stormwater. This alternative would still include stormwater detention/basins, and provide natural BMPs to reduce pollutants in stormwater runoff. As such, potential impacts related to hydrology and water quality would be reduced under the Lower Density Alternative when compared to the proposed Project.

Land Use, Population, and Housing

The General Plan assumed that development of the Specific Plan Area would occur and the General Plan has designated lands within the Specific Plan Area for development and urban uses on its Land Use Map. The direct population growth shown is consistent with planned growth for Riverbank. Additionally, in the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. The areas outside the Specific Plan Area which contain home sites, but within the SOI boundary, would not be developed under the proposed Project. Development of the Project would remove some of the housing units onsite, and add up to 2,432 residential units. Therefore, the Project would more than replace the housing that would be removed and would not displace substantial numbers of people or existing housing. The Project would require a zoning and General Plan amendment for land use changes, as well as annexation to the City of Riverbank. However, impacts to land use are considered less than significant.

The Lower Density Alternative is not expected to induce substantial population growth in the area. In the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential

buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. Under the Lower Density Alternative, the number of residential units constructed in the Plan Area would be reduced by 25 percent compared to the proposed Project. Under the proposed Project, 2,432 to 2,682 residential units would be constructed; this alternative would result in construction of 1,824 to 2,011 units. Because fewer units would be constructed, less population generation would result from this alternative. Therefore, impacts relating to land use, population and housing would be reduced under this alternative.

Noise

The proposed Project could increase noise-generating activities associated with the maintenance and operation of the proposed Project, as well as from vehicular traffic. Mitigation measures provided in Section 3.11 would reduce nearly all potential impacts to a less than significant level. However, impacts associated with generation of unacceptable construction and traffic noise levels at existing receptors would remain significant and unavoidable.

The Lower Density Alternative would result in a 25 percent reduction in the number of residential units and the same amount of commercial buildings as the Project; therefore, the vehicular and operational noise impacts associated with the alternative would be reduced compared to the proposed Project. All noise issues would be mitigated, as appropriate, through noise attenuation and best management practices; therefore, under this alternative, noise impacts would be reduced when compared to the proposed Project.

Public Services and Recreation

Development in the Plan Area will be required to pay all applicable fees and assessments required to fund its fair share of public services and recreation. This funding would assist in the development of facilities to meet the City's standards. The proposed Project would have a less than significant impact to fire, police, and schools. Impacts related to recreational facilities would be significant and unavoidable under the Project.

Under the Lower Density Alternative, the site would be developed with the same range of allowable uses as described in the Project Description, the same size of the non-residential components, and a reduced number of residential units. Due to the reduced population growth anticipated because of this alternative, the demand for fire protection, police protection, schools, and recreational facilities would be reduced compared to the Project. As such, this impact would be reduced compared to the proposed Project.

Transportation and Circulation

As described in Section 3.13, with regards to residential development, because no relatable forecasts for the City of Riverbank or Stanislaus County are available, it is not possible to determine whether the Specific Plan's residences will generate VMT per capita rate that is 15 percent below the current area average, as recommended under the OPR directive. With regards to non-residential uses, the net increase in regional VMT caused by the Specific Plan's non-residential uses is the

difference between the overall difference in total regional VMT (195,160 VMT) and the VMT caused by residential uses (74,640 VMT) is 120,520 VMT. This increase exceeds the OPR directive's threshold of no net increase in regional VMT. With regards to residential development, because no relatable forecasts for the City of Riverbank or Stanislaus County are available, it is not possible to determine whether the Specific Plan's residences will generate VMT per capita rate that is 15 percent below the current area average, as required under the OPR directive. Thus, it must be presumed that the VMT impact of the proposed residences is potentially significant. Mitigation was identified to alleviate identified impacts; however, certain impacts were deemed to be significant and unavoidable.

Under the Lower Density Alternative, the number of residential units constructed in the Plan Area would be reduced by 25 percent compared to the proposed Project. Under the proposed Project, 2,432 to 2,682 residential units would be constructed; this alternative would result in construction of 1,824 to 2,011 units. This alternative would also plan for parks, trails, circulation improvements, and utility improvements. Additionally, the Mixed Use areas would provide an estimated 375,000 to 875,000 sf of commercial/retail uses, identical to the proposed Project. Due to the 25 percent reduction in residential units, the amount of traffic generated from the Project site would be reduced under this alternative and the proposed Project. Uses in the Lower Density Alternative would be required to adhere to the same mitigation measures as the proposed Project; therefore, under this alternative, transportation and circulation impacts would be reduced when compared to the proposed Project.

Utilities

Implementation of the proposed Project would result in increased flows to the public wastewater system. The proposed Specific Plan would require sewer allocation for each phase of development as the phase is constructed through 2040. Allocation of available sewer capacity is provided by the City at the time payment of the appropriate connection fees is made to the City to cover a pro-rata fair share of the capital cost for the sewer capacity. The WWTP upgrades, if built, are anticipated to increase capacity of the plant by 0.69 mgd, of which the proposed Specific Plan will require 0.64 mgd at buildout. The first 5-10 years of construction phases may be adequately served by the WWTP upgrades that add 0.69 mgd; however, it may be necessary for additional WWTP upgrades based on other development that occurs throughout the City. Overall, the Specific Plan's capacity needs may exceed the wastewater discharge requirements from the wastewater treatment provider, which will depend on future project demands and WWTP upgrade implementation. WWTP upgrades are dependent on financing, as well, as design, engineering, and construction schedule that is not yet secure. Mitigation limits construction to only those units that have secured capacity to ensure that there is not an exceedance of the sewer capacity.

Implementation of the proposed Project would result in increased demand for potable water. Pursuant to Water Code section 10910(c)(4), and based on the technical analyses described in the Water Supply Assessment, the total projected water supplies documented to be available for the Project during Normal, Single Dry, and Multiple Dry water years during a 20-year projection are more than sufficient to meet the projected water demand associated with the Project, in addition to existing and planned future uses.

Implementation of the proposed Project would result in increased storm drainage from new impervious surfaces. Onsite storm drainage would be installed to serve the proposed Project. All new construction projects in the City of Riverbank are classified in the Low Impact Development Design and Specifications Manual based on their intended use (i.e., residential, Mixed Use, parking areas, etc.). The proposed Specific Plan has been designed with this in mind and features linear park drainage basins running throughout the Project Area. Treatment and attenuation of flows throughout the Project Area can be achieved by draining sidewalks to vegetated filter strips, constructing parking lots with permeable pavement, and outletting roof leaders to the surface of a bio-retention area.

Further, implementation of the proposed Project would result in increased generation of solid waste. However, the landfill has adequate capacity to dispose the solid waste.

Under the Lower Density Alternative, the number of residential units constructed in the Plan Area would be reduced by 25 percent compared to the proposed Project. Under the proposed Project, 2,432 to 2,682 residential units would be constructed; this alternative would result in construction of 1,824 to 2,011 units. This alternative would also plan for parks, trails, circulation improvements, and utility improvements. Additionally, the Mixed Use areas would provide an estimated 375,000 to 875,000 sf of commercial/retail uses, identical to the proposed Project.

The Mixed Use areas are estimated to generate roughly 2.5 pounds of solid waste per day per 1,000 square feet. Mixed Use water use factors and wastewater generation factors are shown in Tables 5.0-2 and 5.0-3, shown previously. Because the same amount of Mixed Use areas would be provided under this alternative, the Mixed Use areas would result in the same water demand, wastewater generation, and solid waste generation. Typical single-family residential (Low Density) is estimated to generate roughly 10 pounds of solid waste per day per household. Typical multi-family residential (Medium and High Density) is estimated to generate roughly 5.31 pounds of solid waste per day per household. Because this alternative would reduce the number of residential units by 25 percent, eliminate the medium and high density residential units, and only construct low density residential units, the associated solid waste generation for the residential areas would decrease. Overall, solid waste generation from this alternative would decrease.

Water demand factors are shown in Table 5.0-2 previously, and wastewater generation factors are shown in Table 5.0-3. As shown in Table 5.0-2, water demand factors for low density residential units are higher than the water demand factors for both medium and high density residential units. Like solid waste, because this alternative would reduce the number of residential units by 25 percent, eliminate the medium and high density residential units, and only construct low density residential units, the associated water demand for the residential areas would decrease.

As shown in Table 5.0-3 previously, wastewater generation factors for low density residential units are lower than the water demand factors for both medium and high density residential units. Like solid waste, because this alternative would only include low density residential areas and would decrease the unit count by 25 percent compared to the proposed Project, the associated wastewater generation for the residential areas would decrease. Overall, the wastewater generation would decrease compared to the proposed Project.

Under the Lower Density Alternative, the proposed Project would be developed in such a way to promote larger lot sizes and to reduce the overall footprint of the developed areas. The increased front and backyard areas would result in more acres of pervious soils, thereby increasing opportunities for stormwater retention at the Project site.

However, uses in the Lower Density Alterative would be required to adhere to the same mitigation measures as the proposed Project, and the equal amount of square footage would result in similar utility demands. The Lower Density Alternative would result in similar demand on utility systems when compared to the proposed Project.

Overall, this alternative would have reduced wastewater treatment demand, water demand, solid waste generation, and storm water runoff when compared to the proposed Project. As such, this alternative would have reduced impacts when compared to the proposed Project.

NO RESERVE ALTERNATIVE

As explained in the Project Description chapter (Chapter 2.0), the "Reserve" category portion of the proposed Project was placed on land that, under the proposed Project, would not be annexed into the City under the proposed Project, but would be added to the City's existing sphere of influence (SOI). Because the eventual development of the Reserve area would occur far out in time, the City would not yet plan for any specific urban or resource land uses in the Reserve area. The Reserve designation would instead operate as an overlay designation that specifies additional requirements related to timing of development, analysis required by the City, infrastructure and service standards, and related topics. Before making Reserve areas eligible for consideration for urban development, the area would need to have a land plan developed and processed through the standard application process, including a detailed environmental analysis. Proposed General Plan and zoning categories would have to be developed in anticipation of seeking annexation of the area from Stanislaus LAFCo.

Because it is not possible at present to predict in any meaningful way the nature and extent of the particular environmental impacts that would result from future planned development within the Reserve area, the environmental analyses found in Sections 3.1 thorough 3.14 of this EIR are focused on the reasonably foreseeable environmental impacts that would occur in the Specific Plan area, as that area is proposed for annexation and development in the relatively near term. Even so, there is no doubt that the No Reserve Alternative, which would *not* extend the SOI to include the area identified as "Reserve" in the proposed Project, would substantially lessen the long-term environmental effects of the proposed Project. Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. This would conflict with the City's desire that has been expressed.

Aesthetics and Visual Resources

As described in Section 3.1, the visual character of the Project site would be significantly altered because of Project implementation. Implementation of the proposed Design Guidelines and landscaping requirements, and consistency with the General Plan and the Riverbank Zoning

Ordinance, would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

In the short-term, these impacts would be similar with the No Reserve Alternative as this alternative is located on the same site and would have similar uses. This alternative would result in the same number of residential units, the same development footprint, and the same amount of commercial/retail uses. The impacts of light and glare would still occur and could be mitigated to a less than significant level. The impacts to the existing visual quality would be like the proposed Project as most of the Project site would be developed with the same uses as under the proposed Project, just at a higher density. Therefore, this alternative would have an equal impact on visual resources in the short-term condition when compared to the proposed Project.

In the long-term, as noted previously, there is no doubt that the No Reserve Alternative, which would not extend the SOI to include the area identified as "Reserve" in the proposed Project, would substantially lessen the long-term environmental effects related to aesthetics and visual resources compared to the proposed Project. Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. As noted previously, the Stanislaus County General Plan designates the majority of the Project Area as AG, and a small portion (5 acres including APNs 074-005-012, 074-005-013, 074-005-010, 074-005-011) of the eastern portion of Project Area as UT. As such, the County land use and zoning in the "Reserve" area of the proposed Project would prevail, and this alternative would have reduced impacts on visual resources in the long-term condition when compared to the proposed Project.

Agricultural Resources

Currently, most of the Project site is used for agricultural purposes. Under the No Reserve Alternative, the total development footprint would be equal to the proposed Specific Plan, but the Reserve Area located outside the Specific Plan Area would be removed from the Project Area. As such, an equal amount of the Project site would be converted from agricultural use to urban use. As such, in the short-term, this alternative would have equal the impacts to agricultural lands when compared to the proposed Project. It is noted that the loss of the agricultural land, including Prime Farmland, would be a significant and unavoidable impact under both the No Reserve Alternative and the proposed Project. Overall, the No Reserve Alternative would have similar impacts on agricultural resources in the short-term condition when compared to the proposed Project.

In the long-term, the No Reserve Alternative, which would not extend the SOI to include the area identified as "Reserve" in the proposed Project, would substantially lessen the long-term environmental effects related to agricultural resources compared to the proposed Project. Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. As such, the on-site agricultural operations could remain, and this alternative would have reduced impacts on agricultural resources in the long-term condition when compared to the proposed Project.

Air Quality

As described in Section 3.3, Stanislaus County has a state designation of Nonattainment for O_3, PM_{10}, and $PM_{2.5}$ and is either Unclassified or Attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone and $PM_{2.5}$. The County is designated either attainment or unclassified for the remaining national standards. Table 3.3-2 in Section 3.3 presents the state and federal attainment status for Stanislaus County.

As discussed under Impact 3.3-1 in Section 3.3, the proposed Project would result in increased emissions. The SJVAPCD has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, nitrogen oxides NO_X, and PM_{10} exceed the SJVAPCD thresholds of significance. The proposed Project would be required to implement Mitigation Measure 3.3-1 which would ensure that individual Projects within the footprint of the proposed Project would reduce emissions to less the applicable SJVAPCD thresholds of significance.

The proposed Project is subject to the SJVAPCD Rule 9510 (ISR), which could result in substantial mitigation of NO_X and associated ROG emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through Project mitigation commitments. The current fees are $9,350 per ton of NO_X. The actual calculations will be determined and finalized by the SJVAPCD and Project applicants as individual projects are brought forward for approval under Rule 9510.

Implementation of the proposed Project would cause an increase in criteria air pollutants, and area and mobile source emissions are the dominant sources of air emissions associated with the proposed Project. Under the Increased Density Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the density of the residential uses would be increased, and the residential and mixed use areas would be clustered in the southern and central portions of the Plan Area. Additionally, the amount of parkland would increase, while the development footprint would be equal to the proposed Specific Plan. Because construction emissions are directly correlated to the size of the construction footprint, the construction-related emissions would be similar under this alternative when compared to the proposed Project.

In the short-term, the total operational development, including residential units and non-residential building square footage, would be equal to the proposed Project; therefore, it is estimated that this alternative would result in equal trip volume compared to the proposed Project. As such, mobile and area source emissions would be equal. Uses in the No Reserve Alternative would be required to adhere to the same mitigation measures as the proposed Project. Overall, the No Reserve Alternative would result in similar air emissions in the short-term condition when compared to the proposed Project.

In the long-term, the No Reserve Alternative, which would not extend the SOI to include the area identified as "Reserve" in the proposed Project, would substantially lessen the long-term environmental effects related to air quality compared to the proposed Project. Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. The reduced development potential would decrease area and mobile emissions compared to the Project in the long-term. As such, this alternative would have reduced impacts on air quality in the long-term condition when compared to the proposed Project.

Biological Resources

As described in Section 3.4, Biological Resources, construction on the Project site has the potential to result in impacts to special-status species in the region. The Project site provides potential habitat for several species, including those discussed in Section 3.4. Through the implementation of various mitigation measures found in Section 3.4, implementation of the proposed Project will have a less than significant impact on biological resources, except for impacts to Swainson's hawk which would be significant and unavoidable with mitigation.

In the short-term, the No Reserve Alternative would result in development of the same area as the proposed Specific Plan, but the residential densities would be increased. Under the No Reserve Alternative, the proposed Project would be developed with the same amenities as described in the Project Description, but the Reserve Area located outside the Specific Plan Area would be removed from the Project Area. The same amount of land would be converted to urban uses under this alternative as the proposed Project. As such, the No Reserve Alternative would result in similar impacts to biological resources in the short-term condition when compared to the proposed Project.

In the long-term, the No Reserve Alternative, which would not extend the SOI to include the area identified as "Reserve" in the proposed Project, would substantially lessen the long-term environmental effects related to biological resources compared to the proposed Project. Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. As such, this alternative would have reduced impacts on biological resources in the long-term condition when compared to the proposed Project.

Cultural and Tribal Resources

As discussed in Section 3.5, Cultural and Tribal Resources, there are two significant prehistoric period resources within the Berghill Boundary area: ML-20-02 and ML-20-03, that may contain information related to the prehistoric use and occupancy of the sites. Mitigation Measure 3.5-1 addresses the potential impacts to these two significant prehistoric period resources. Any previously unknown cultural and/or tribal resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Impacts related to substantial adverse changes to an historical resource as defined in CEQA Guidelines §15064.5, a unique archaeological resource as defined in Public Resources Code section 21083.2, or a tribal cultural resource, as defined in Public Resources Code §21074, would be significant and unavoidable with mitigation. Impacts related to disturbance of human remains, including those interred outside of formal cemeteries, would be less than significant with mitigation.

The No Reserve Alternative would result in development of the entire Project site, but the Reserve Area located outside the Specific Plan Area would be removed from the Project Area. Under this alternative, the same amenities and uses would be developed, and the total disturbance area would be equal to the Project. This would result in an equal potential to disturb or destroy cultural, tribal, historic, and archaeological resources. The proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation; the No Reserve Alternative would result in an equal potential for impacts to cultural resources.

In the long-term, the No Reserve Alternative, which would not extend the SOI to include the area identified as “Reserve” in the proposed Project, would substantially lessen the long-term environmental effects related to cultural and tribal resources compared to the proposed Project. Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. As such, this alternative would have reduced impacts on cultural and tribal resources in the long-term condition when compared to the proposed Project.

Geology and Soils

As described in Section 3.6, implementation of the proposed Project would result in the construction of new structures on the Project site. The new structures would be subject to seismic, geologic, and soils hazards for the life of the Project. Mostly notably, the proposed Project would be subject to liquefaction, liquefaction induced settlement, and lateral spreading. Mitigation measures identified in Section 3.6 would reduce the potential impacts to a less than significant level.

Under the No Reserve Alternative, in the short-term, the amount of developed area would be equal to the Project, and an equal number of structures would be subject to hazardous geological conditions. Because this alternative would have an equal disturbance area as the proposed Project, this alternative would result in an equal potential for loss of topsoil and soil erosion compared to the Project. The proposed Project is not anticipated to result in significant impacts from geology and

soils with mitigation; the No Reserve Alternative would result in an equal potential for impacts related to geology and soils in the short-term condition when compared to the proposed Project.

Greenhouse Gases, Climate Change, and Energy

As stated previously, implementation of the proposed Project would generate GHG emissions that would not otherwise exist without the proposed Project, although, as the California Supreme Court has said, "the future residents and occupants of development enabled by Project approval would exist and live somewhere else if this Project is not approved. Whether 'here or there,' GHG emissions associated with such population growth will occur." (*Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, 219.)

Short-term construction emissions of GHGs are estimated at a maximum of approximately 3,395.1 MT CO_2e per year. The annual mitigated GHG emissions associated with the proposed Project would be approximately 30,136 MT CO_2e. The proposed Project would not conflict with any of the GHG reduction measures contained with the CARB's 2017 Scoping Plan Update and the SJCOG's 2018 RTP/SCS, as provided above. Therefore, the proposed Project would be consistent with the State GHG reduction targets, and would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment or to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The proposed Project's criteria pollutant emissions would be considered to have a less than significant impact.

On a Project-by-Project case, the City of Riverbank evaluates a Project and the potential to impose Project-specific mitigation, which has been done through this GHG analysis. However, the proposed Project would have an individual and cumulative impact that is significant and unavoidable.

Under the No Reserve Alternative, in the short-term the Project site would be developed with the same types of uses and structures as the proposed Project, but the Reserve Area located outside the Specific Plan Area would be removed from the Project Area. Therefore, the amount of traffic generated from the Project site would be equal under this alternative in the short-term condition.

Because construction greenhouse gas emissions are directly correlated to the size of the construction footprint, the construction-related emissions would be equal under this alternative in the short-term when compared to the proposed Project. As such, the greenhouse gas emissions impact would be equal in the short-term condition when compared to the proposed Project.

In the long-term, the No Reserve Alternative, which would not expand the SOI to include the area identified as "Reserve" in the proposed Project, would substantially lessen the long-term environmental effects related to greenhouse gas emissions and energy compared to the proposed Project. Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. The reduced development potential would decrease area and mobile emissions compared to the Project in the long-term. As such, this

alternative would have reduced impacts on greenhouse gas emissions and energy in the long-term condition when compared to the proposed Project.

Hazards and Hazardous Materials

The proposed Project includes components which will likely use a variety of common household hazardous materials including: paints, cleaners, and cleaning solvents. There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by the Stanislaus County Division of Environmental Resources and the Stanislaus Consolidated Fire Protection District.

Under the No Reserve Alternative, in the short-term, the range of residential and non-residential uses on the site would not change when compared to the proposed Project. This alternative would still use the hazardous materials identified under the proposed Project. As such, this alternative would have equal impacts from hazards and hazardous materials impacts in the short-term condition when compared to the proposed Project.

In the long-term, the No Reserve Alternative, which would not expand the SOI to include the area identified as "Reserve" in the proposed Project, would substantially lessen the long-term environmental effects related to hazards and hazardous materials compared to the proposed Project. Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. As such, this alternative would have reduced impacts on hazards and hazardous materials in the long-term condition when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, with the design and construction of improvements included in the proposed storm drainage system, the proposed Project would not increase peak stormwater runoff. The proposed Project, along with several of the related projects within the City of Riverbank, would ultimately discharge stormwater runoff to on-site detention basins, the City's system of MID Laterals, the Stanislaus River, or the groundwater basin. This would potentially degrade the water quality of the system. The proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge, or result in significant impacts related to flooding.

Under the No Reserve Alternative, in the short-term potential construction-related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be comparable to the proposed Project. This alternative would also include stormwater detention/basins, and provide natural BMPs to reduce pollutants in stormwater runoff. As such, in the short-term condition, potential impacts related to hydrology and water quality would be similar under this alternative when compared to the proposed Project.

In the long-term, the No Reserve Alternative, which would not extend the SOI to include the area identified as "Reserve" in the proposed Project, would substantially lessen the long-term environmental effects related to hydrology and water quality compared to the proposed Project. Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. As such, this alternative would have reduced impacts on hydrology and water quality in the long-term condition when compared to the proposed Project.

Land Use, Population, and Housing

The City of Riverbank General Plan assumed that, after LAFCO approves annexation, development of the Specific Plan Area would occur; and the General Plan has designated lands within the Specific Plan Area for development and urban uses on its Land Use Map. The direct population growth shown is consistent with planned growth for Riverbank. Additionally, in the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. The areas outside the Specific Plan Area which contain home sites, but within the SOI boundary, would not be developed under the proposed Project. Development of the Project would remove some of the housing units onsite, and add up to 2,432 residential units. Therefore, the Project would more than replace the housing that would be removed and would not displace substantial numbers of people or existing housing. The Project would require a zoning and General Plan amendment for land use changes, as well as annexation to the City of Riverbank. However, impacts to land use are considered less than significant.

The No Reserve Alternative is not expected to induce substantial population growth in the area. In the Specific Plan Area, there are 22 parcels with a total of 17 residential buildings. Outside of the Specific Plan Area, but within the Project Area, there are 39 parcels with a total of 22 residential buildings. Many of the residential and rural agricultural residences have accessory structures on-site including storage buildings, shop buildings, and barn structures. Like the proposed Project, development of the No Reserve Alternative would remove 25 housing units onsite, and add up to 2,682 new residential units. Therefore, impacts relating to population and housing would be equal under this alternative.

Under the proposed Project, the SOI would be expanded to include the Reserve, which is intended for land that the City has not yet planned for a specific urban or resource land use. This area offers an opportunity to plan for future land uses by identifying specific criteria before development takes place in these areas. The Reserve designation does not denote any specific land use, but rather is an overlay designation that specifies additional requirements related to timing of development, analysis required by the City, infrastructure and service standards, and related topics. Before making Reserve areas eligible for consideration for urban development, the area would need to have a land plan developed and processed through the standard application process, including a detailed environmental analysis. As such, by expanding the SOI to McHenry Avenue, including the designated

Reserve Area, and annexing the Reserve Area into the City, the proposed Project would take steps in the entitlement process towards future development of the land outside the Specific Plan Area, but within the Project Area.

Under the No Reserve Alternative, the Reserve Area located outside the Specific Plan Area would be removed from the Project Area. The Reserve Area outside the Specific Plan Area would not be included in the SOI expansion or annexed into the City, and the Project Area would be reduced from 1,522 acres under the proposed Project to 997 acres. Unlike the proposed Project, this alternative would not take steps in the entitlement process towards future development of the land outside the Specific Plan Area. The land in the Reserve Area and outside the Specific Plan Area would not be available for future City land use planning without future entitlements (such as SOI expansion and annexation). As such, the No Reserve Alternative would result in a reduction in indirect environmental impacts related to land use. Therefore, impacts relating to land use would be reduced under this alternative.

Noise

The proposed Project could increase noise-generating activities associated with the maintenance and operation of the proposed Project, as well as from vehicular traffic. Mitigation measures provided in Section 3.11 would reduce nearly all potential impacts to a less than significant level. However, impacts associated with generation of unacceptable traffic noise levels at existing receptors would remain significant and unavoidable.

In the short-term condition, the No Reserve Alternative would result in the same number of residential units and the same amount of commercial buildings as the Project; therefore, the noise impacts associated with the alternative would be equal to the vehicular and operational activities of the proposed Project. All noise issues would be mitigated, as appropriate, through noise attenuation and best management practices; therefore, under this alternative, noise impacts would be equal in the short-term condition when compared to the proposed Project.

In the long-term, the No Reserve Alternative, which would not extend the SOI to include the area identified as “Reserve” in the proposed Project, would substantially lessen the long-term environmental effects related to noise compared to the proposed Project. Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. As such, this alternative would have reduced impacts on noise in the long-term condition when compared to the proposed Project.

Public Services and Recreation

Development in the Plan Area will be required to pay all applicable fees and assessments required to fund its fair share of public services and recreation. This funding would assist in the development of facilities to meet the City’s standards. The proposed Project would have a less than significant impact to fire, police, and schools. Impacts related to recreational facilities would be significant and unavoidable under the Project.

Under the No Reserve Alternative, the site would be developed with the same range of allowable uses as described in the Project Description, and the size of the residential and non-residential components would be equal. Due to the similar population growth anticipated because of the Project and the No Reserve Alternative, the demand for fire protection, police protection, schools, and recreational facilities would be like the Project. As such, public services and recreation impacts would be equal when compared to the proposed Project.

In the long-term, the No Reserve Alternative, which would not extend the SOI to include the area identified as "Reserve" in the proposed Project, would substantially lessen the long-term environmental effects related to public services and recreation compared to the proposed Project. Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. As such, this alternative would have reduced impacts on public services and recreation in the long-term condition when compared to the proposed Project.

Transportation and Circulation

As described in Section 3.13, with regards to residential development, because no relatable forecasts for the City of Riverbank or Stanislaus County are available, it is not possible to determine whether the Specific Plan's residences will generate VMT per capita rate that is 15 percent below the current area average, as recommended under the OPR directive. With regards to non-residential uses, the net increase in regional VMT caused by the Specific Plan's non-residential uses is the difference between the overall difference in total regional VMT (195,160 VMT) and the VMT caused by residential uses (74,640 VMT) is 120,520 VMT. This increase exceeds the OPR directive's threshold of no net increase in regional VMT. With regards to residential development, because no relatable forecasts for the City of Riverbank or Stanislaus County are available, it is not possible to determine whether the Specific Plan's residences will generate VMT per capita rate that is 15 percent below the current area average, as required under the OPR directive. Thus, it must be presumed that the VMT impact of the proposed residences is potentially significant. Mitigation was identified to alleviate identified impacts; however, certain impacts were deemed to be significant and unavoidable.

As noted above, the total development, including residential units and non-residential building square footage, would be equal to the proposed Project under this alternative. Therefore, the amount of traffic generated from the Project site would be equal under this alternative and the proposed Project. Uses in the No Reserve Alternative would be required to adhere to the same mitigation measures as the proposed Project; therefore, under this alternative, transportation and circulation impacts would be equal in the short-term condition when compared to the proposed Project.

In the long-term, the No Reserve Alternative, which would not extend the SOI to include the area identified as "Reserve" in the proposed Project, would substantially lessen the long-term environmental effects related to transportation and circulation compared to the proposed Project.

Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. The reduced development potential would decrease vehicle trips compared to the Project in the long-term. As such, this alternative would have reduced impacts on transportation and circulation in the long-term condition when compared to the proposed Project.

Utilities

Implementation of the proposed Project would result in increased flows to the public wastewater system. The proposed Specific Plan would require sewer allocation for each phase of development as the phase is constructed through 2040. Allocation of available sewer capacity is provided by the City at the time payment of the appropriate connection fees is made to the City to cover a pro-rata fair share of the capital cost for the sewer capacity. The WWTP upgrades, if built, are anticipated to increase capacity of the plant by 0.69 mgd, of which the proposed Specific Plan will require 0.64 mgd at buildout. The first 5-10 years of construction phases may be adequately served by the WWTP upgrades that add 0.69 mgd; however, it may be necessary for additional WWTP upgrades based on other development that occurs throughout the City. Overall, the Specific Plan's capacity needs may exceed the wastewater discharge requirements from the wastewater treatment provider, which will depend on future project demands and WWTP upgrade implementation. WWTP upgrades are dependent on financing, as well, as design, engineering, and construction schedule that is not yet secure. Mitigation limits construction to only those units that have secured capacity to ensure that there is not an exceedance of the sewer capacity.

Implementation of the proposed Project would result in increased demand for potable water. Pursuant to Water Code section 10910(c)(4), and based on the technical analyses described in the Water Supply Assessment, the total projected water supplies documented to be available for the Project during Normal, Single Dry, and Multiple Dry water years during a 20-year projection are more than sufficient to meet the projected water demand associated with the Project, in addition to existing and planned future uses.

Implementation of the proposed Project would result in increased storm drainage from new impervious surfaces. Onsite storm drainage would be installed to serve the proposed Project. All new construction projects in the City of Riverbank are classified in the Low Impact Development Design and Specifications Manual based on their intended use (i.e., residential, Mixed Use, parking areas, etc.). The proposed Specific Plan has been designed with this in mind and features linear park drainage basins running throughout the Project Area. Treatment and attenuation of flows throughout the Project Area can be achieved by draining sidewalks to vegetated filter strips, constructing parking lots with permeable pavement, and outletting roof leaders to the surface of a bio-retention area.

Further, implementation of the proposed Project would result in increased generation of solid waste. However, the landfill has adequate capacity to dispose the solid waste.

Under the No Reserve Alternative, in the short-term the proposed Project would be developed with the same components as described in the Project Description, and the size of the residential and non-residential components would be equal. The types and densities of uses would be identical to the Project. Therefore, water demand, wastewater generation, solid waste generation, and stormwater runoff would be identical to the Project. It is noted that uses in the No Reserve Alternative would be required to adhere to the same mitigation measures as the proposed Project, and the equal amount of square footage would result in similar utility demands. The No Reserve Alternative would result in similar demand on utility systems when compared to the proposed Project. Overall, this alternative would have equal impacts in the short-term when compared to the proposed Project.

In the long-term, the No Reserve Alternative, which would not extend the SOI to include the area identified as "Reserve" in the proposed Project, would substantially lessen the long-term environmental effects related to utilities compared to the proposed Project. Effects would be diminished because, under the No Reserve Alternative, there would be no assumption that, even in the long run, the property at issue would ever be developed and become a part of the City of Riverbank. Instead, the property would permanently remain subject to the existing County General Plan designations and zoning. As such, this alternative would have reduced impacts on utilities in the long-term condition when compared to the proposed Project.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project (No Build) Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed Project.

As Table 5.0-4 presents a comparison of the impacts from the proposed Project relative to the Alternatives. As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. The Increased Density Alternative would reduce impacts related to 24 impact statements, increase impacts related to one impact statement, and equal impacts related to 38 impact statements. The Lower Density Alternative would reduce impacts related to 30 impact statements and would have equal impacts related to 33 impact statements. The No Reserve Alternative would result in equal impacts in all areas and for all impacts, except for one Land Use related impact statement. Therefore, the Lower Density Alternative would be the next environmentally superior alternative. See Section 5.4 for a comparative evaluation of the objectives for each alternative.

TABLE 5.0-4: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

ENVIRONMENTAL TOPIC	*PROPOSED PROJECT*[1]	*NO PROJECT (NO BUILD) ALTERNATIVE*	*INCREASED DENSITY ALTERNATIVE*	*LOWER DENSITY ALTERNATIVE*	*NO RESERVE ALTERNATIVE*
SECTION 3.1 - AESTHETICS (AES)					
AES Impact 3.1-1	SU	Less	Equal	Equal	Equal
AES Impact 3.1-2	LS	Less	Less	Equal	Equal
AES Impact 3.1-3	LS	Less	Less	Equal	Equal
SECTION 3.2 – AGRICULTURAL RESOURCES (AG)					
AG Impact 3.2-1	SU	Less	Equal	Equal	Equal
AG Impact 3.2-2	LS	Less	Equal	Equal	Equal
AG Impact 3.2-3	LS/MM	Less	Equal	Equal	Equal
SECTION 3.3 - AIR QUALITY (AQ)					
AQ Impact 3.3-1	LS/MM	Less	Less	Less	Equal
AQ Impact 3.3-2	LS/MM	Less	Less	Less	Equal
AQ Impact 3.3-3	LS	Less	Equal	Equal	Equal
AQ Impact 3.3-4	LS/MM	Less	Less	Less	Equal
AQ Impact 3.3-5	LS	Less	Equal	Equal	Equal
SECTION 3.4 - BIOLOGICAL RESOURCES (BIO)					
BIO Impact 3.4-1	LS/MM	Less	Less	Equal	Equal
BIO Impact 3.4-2	LS/MM	Less	Less	Equal	Equal
BIO Impact 3.4-3	SU	Less	Less	Equal	Equal
BIO Impact 3.4-4	LS/MM	Less	Less	Equal	Equal
BIO Impact 3.4-5	LS	Less	Less	Equal	Equal
BIO Impact 3.4-6	LS/MM	Less	Less	Equal	Equal
BIO Impact 3.4-7	LS	Less	Equal	Equal	Equal
BIO Impact 3.4-8	LS	Less	Equal	Equal	Equal
BIO Impact 3.4-9	LS	Less	Equal	Equal	Equal
BIO Impact 3.4-10	LS/MM	Less	Less	Equal	Equal
SECTION 3.5 - CULTURAL AND TRIBAL RESOURCES (CLT)					
CLT Impact 3.5-1	LS/MM	Less	Equal	Equal	Equal
CLT Impact 3.5-2	LS/MM	Less	Equal	Equal	Equal
SECTION 3.6 - GEOLOGY AND SOILS (GEO)					
GEO Impact 3.6-1	LS	Less	Equal	Less	Equal
GEO Impact 3.6-2	LS/MM	Less	Equal	Less	Equal
GEO Impact 3.6-3	LS/MM	Less	Equal	Less	Equal

Environmental Topic	*Proposed Project*[1]	*No Project (No Build) Alternative*	*Increased Density Alternative*	*Lower Density Alternative*	*No Reserve Alternative*
GEO Impact 3.6-4	LS	Less	Equal	Less	Equal
GEO Impact 3.6-5	LS/MM	Less	Equal	Equal	Equal
Section 3.7 - Greenhouse Gases, Climate Change and Energy (GHG)					
GHG Impact 3.7-1	LS	Less	Equal	Less	Equal
GHG Impact 3.7-2	LS	Less	Equal	Less	Equal
Section 3.8 - Hazards and Hazardous Materials (HAZ)					
HAZ Impact 3.8-1	LS/MM	Less	Equal	Equal	Equal
HAZ Impact 3.8-2	LS	Less	Equal	Equal	Equal
HAZ Impact 3.8-3	LS	Less	Equal	Equal	Equal
HAZ Impact 3.8-4	LS	Less	Equal	Equal	Equal
HAZ Impact 3.8-5	LS	Less	Equal	Equal	Equal
HAZ Impact 3.8-6	LS	Less	Equal	Equal	Equal
Section 3.9 - Hydrology and Water Quality (HYD)					
HYD Impact 3.9-1	LS/MM	Less	Less	Less	Equal
HYD Impact 3.9-2	LS	Less	Less	Less	Equal
HYD Impact 3.9-3	LS	Less	Less	Less	Equal
HYD Impact 3.9-4	LS	Less	Less	Less	Equal
HYD Impact 3.9-5	LS	Less	Less	Less	Equal
Section 3.10 - Land Use, Population and Housing (LUPH)					
LUPH Impact 3.10-1	LS	Less	Equal	Equal	Equal
LUPH Impact 3.10-2	LS	Less	Equal	Equal	Less
LUPH Impact 3.10-3	LS	Less	Equal	Less	Equal
Section 3.11 - Noise (NOI)					
NOI Impact 3.11-1	SU	Less	Equal	Less	Equal
NOI Impact 3.11-2	LS/MM	Less	Equal	Less	Equal
NOI Impact 3.11-3	LS/MM	Less	Equal	Less	Equal
NOI Impact 3.11-4	SU	Less	Equal	Less	Equal
Section 3.12 - Public Services and Recreation (PSR)					
PS Impact 3.12-1	LS	Less	Equal	Less	Equal
PS Impact 3.12-2	LS	Less	Equal	Less	Equal
PS Impact 3.12-3	SU	Less	Equal	Less	Equal
PS Impact 3.12-4	LS	Less	Equal	Less	Equal
PS Impact 3.12-5	LS	Less	Equal	Less	Equal

ENVIRONMENTAL TOPIC	*PROPOSED PROJECT*[1]	*NO PROJECT (NO BUILD) ALTERNATIVE*	*INCREASED DENSITY ALTERNATIVE*	*LOWER DENSITY ALTERNATIVE*	*NO RESERVE ALTERNATIVE*
SECTION 3.13 - TRANSPORTATION AND CIRCULATION (TC)					
TC Impact 3.13-1	SU	Less	Less	Less	Equal
TC Impact 3.13-2	SU	Less	Less	Less	Equal
TC Impact 3.13-3	SU	Less	Less	Less	Equal
TC Impact 3.13-4	LS	Less	Less	Less	Equal
SECTION 3.14 - UTILITIES (UTL)					
UT Impact 3.14-1	SU	Less	Equal	Equal	Equal
UT Impact 3.14-2	LS	Less	Greater	Less	Equal
UT Impact 3.14-3	SU	Less	Equal	Equal	Equal
UT Impact 3.14-4	LS	Less	Equal	Less	Equal
UT Impact 3.14-5	SU	Less	Equal	Less	Equal
UT Impact 3.14-6	LS	Less	Less	Less	Equal

LS – Less than Significant, LS/MM – Less than Significant with Mitigation, SU – Significant and Unavoidable,

5.4 COMPARATIVE EVALUATION OF THE ALTERNATIVES' ABILITY TO SATISFY PROJECT OBJECTIVES

This section examines how each of the alternatives selected for more detailed analysis meets the underlying Project purpose and Project objectives.

Underlying Project Purpose: The purpose of the proposed Project is the expansion of the City of Riverbank Sphere of Influence, and approval and subsequent implementation of the Specific Plan as a means of increasing the housing supply in Stanislaus County and the State of California.

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the City's SOI would not be expanded, and the Specific Plan would not be implemented as a means of increasing the housing supply in Stanislaus County and the State of California. The Increased Density Alternative, Lower Density Alternative, and No Reserve Alternative would expand the City's SOI and implement a Specific Plan as a means of increasing the housing supply. However, because the Lower Density Alternative would decrease the number of units compared to the Project, the increase in housing supply in Stanislaus County and the State of California would not be as great as the proposed Project. Similarly, because the Specific Plan Alternative would be reduced under the No Reserve Alternative compared to the Project, this alternative would not expand the SOI to the same extent as the proposed Project.

1. *Goal 1: Develop a mix of housing products to accommodate a variety of desires in the market.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would remain in its current existing condition and would not provide a mix of residential housing products to accommodate a variety of desires in the market. The Increased Density Alternative would partially meet this objective because this alternative would provide a mix of residential housing products; however, this alternative includes development of 50% medium and high density units, and 50% low density units, while the proposed Project would result in a greater mix and variety of housing types. Similarly, the Lower Density Alternative would not meet this objective because only low density residential units would be provided. The No Reserve Alternative would meet this objective because the variety of housing products would be identical to the proposed Project.

2. *Goal 2: Prioritize the age-restricted development as a vibrant community with diverse housing types and densities allowing residents to age-in-place.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would remain in its current existing condition and would not prioritize the age-restricted development as a vibrant community with diverse housing types and densities. Both the Increased Density Alternative and the Lower Density Alternative would prioritize the age-restricted development as a vibrant community. However, both alternatives would reduce the diversity of housing types and densities compared to the Project. As such, both the Increased Density Alternative and the Lower Density Alternative would meet this objective, but to a lesser extent than the proposed Project. The No Reserve Alternative would meet this objective because the housing types and densities would be identical to the proposed Project.

3. *Goal 3: Develop a community core area that serves as a central community gathering place for social interaction, recreation, retail, services, and living space.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would remain in its current existing condition and would not develop a community core area that serves as a central community gathering place. Both the Increased Density Alternative and the Lower Density Alternative would meet this objective because both alternatives would develop a community core area with recreation, retail, services, and living space. The No Reserve Alternative would meet this objective because a central community gathering place would be provided, identical to the proposed Project.

4. *Goal 4: Promote health and wellness through extensive pedestrian and bicycle trails, outdoor recreation areas, and opportunities for social interaction.*

The No Project (No Build) Alternative would not satisfy this objective because under this alternative, pedestrian and bicycle trails, outdoor recreation areas, and opportunities for social interaction would not be provided. Like the above discussion for Goal 3, both the Increased Density Alternative and the Lower Density Alternative would meet this objective because both alternatives would develop pedestrian and bicycle trails, outdoor recreation areas, and opportunities for social interaction. The No Reserve Alternative would meet this objective because extensive pedestrian and bicycle trails, outdoor recreation areas, and opportunities for social interaction would be provided.

5. *Goal 5: Respect the natural resources (i.e., Stanislaus River), terrain, and character of land by designing a residential community that highlights the scenic views of the Plan Area.*

The No Project (No Build) Alternative would not satisfy this objective because under this alternative, a residential community that highlights the scenic views of the Plan Area would not be provided. Like the above discussion for Goal 4, both the Increased Density Alternative and the Lower Density Alternative would meet this objective because both alternatives would respect the natural resources (i.e., Stanislaus River), terrain, and character of land by designing a residential community that highlights the scenic views of the Plan Area. The No Reserve Alternative would meet this objective because, under the No Reserve Alternative, the proposed Project would be developed with the same amenities as described in the Project Description, but the Reserve Area located outside the Specific Plan Area would be removed from the Project Area.

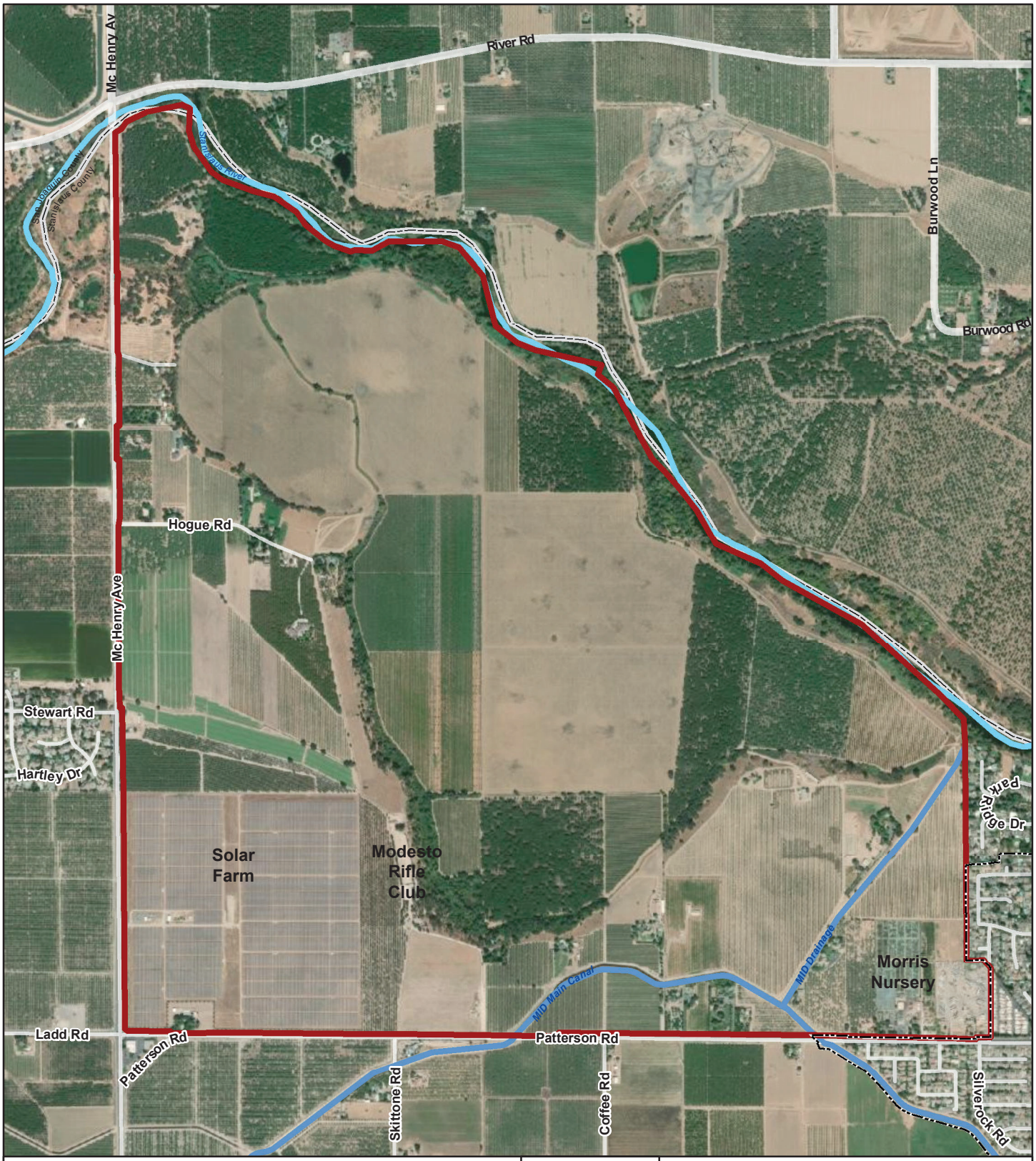
6. *Goal 6: Achieve a safe and efficient circulation system for all users and modes of transportation.*

The No Project (No Build) Alternative would not provide a safe and efficient circulation system for all users and modes of transportation. The Increased Density Alternative, Lower Density Alternative, and No Reserve Alternative would provide similar parks, trails, circulation improvements as the Project. As such, these three alternatives would meet this objective.

7. *Goal 7: Highlight village identity while promoting community amenities.*

The No Project (No Build) Alternative would not achieve this objective because this alternative would not highlight village identity while promoting community amenities. The Increased Density Alternative, Lower Density Alternative, and No Reserve would provide residential villages with community amenities. As such, all three alternatives would meet this objective.

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Legend

- Project Area
- City of Riverbank
- County Boundary

0 500 1,000

Feet

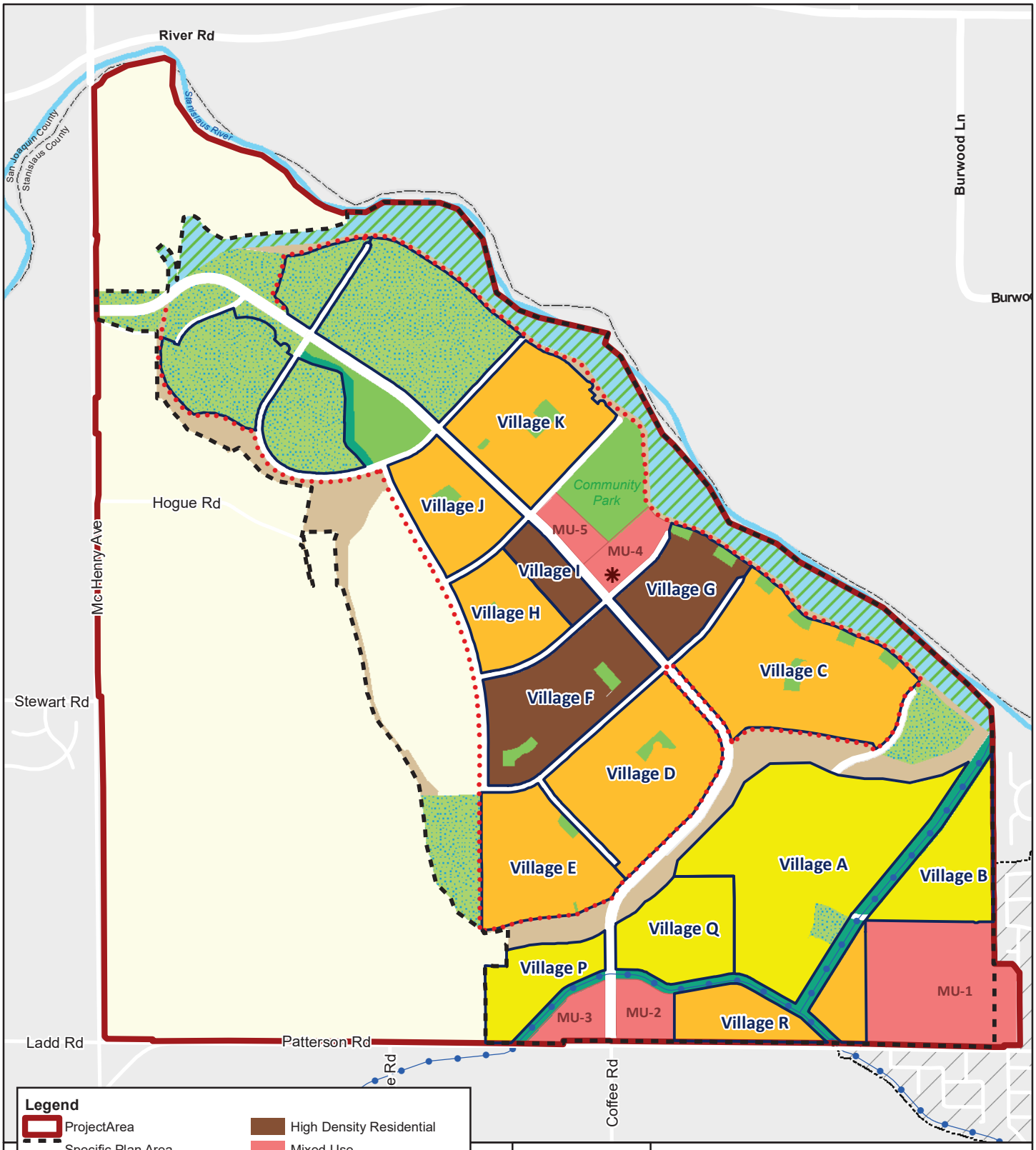
Sources: Stanislaus County GIS; ArcGIS Online World Imagery Map Service. Map date: November 10, 2020.

RIVER WALK SPECIFIC PLAN

Figure 5.0-1.
No Project (No Build) Alternative

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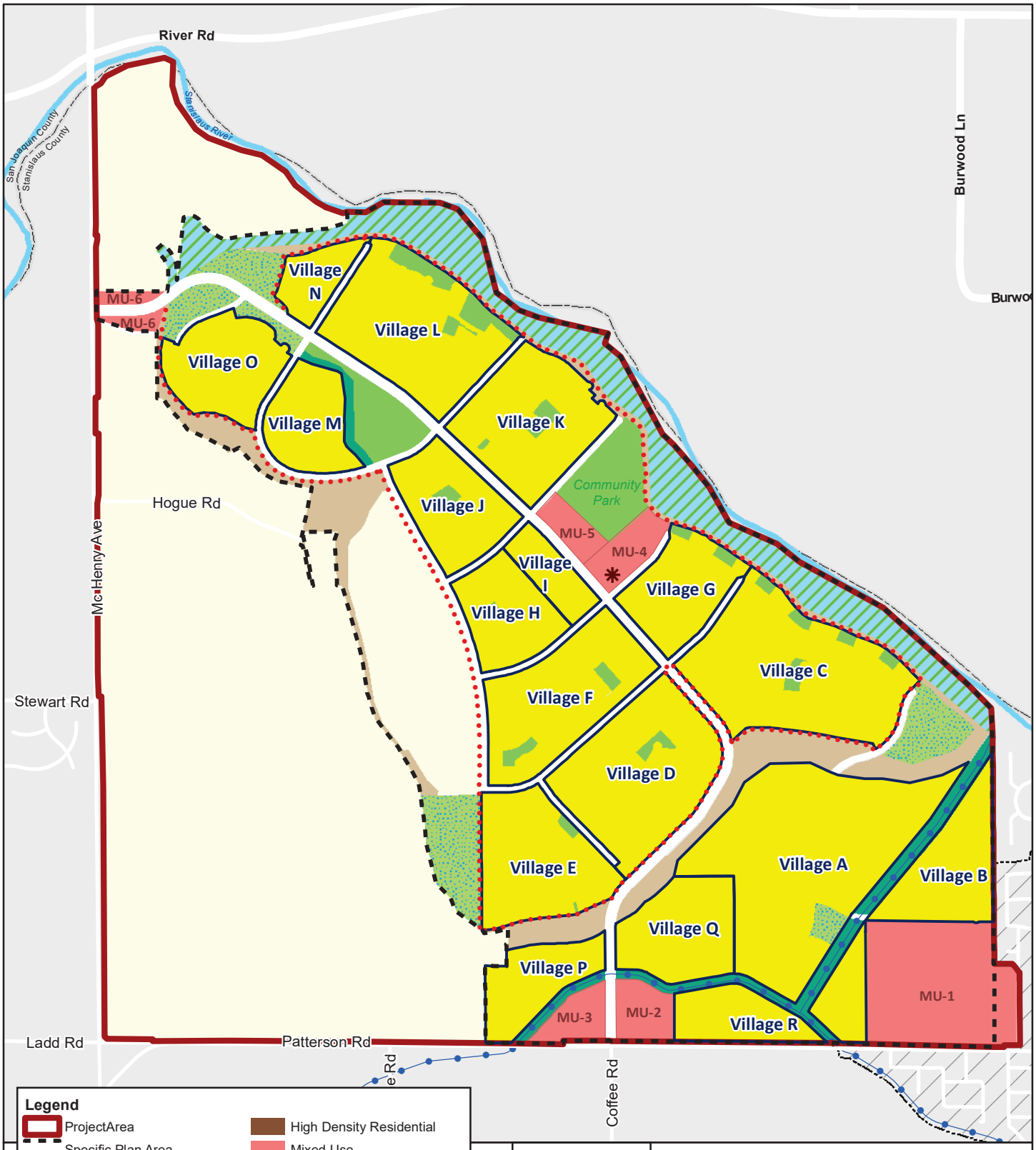
Sources: Stanislaus County GIS; City of Riverbank. Map date: June 21, 2022.

RIVERWALK SPECIFIC PLAN

Figure 5.0-2.
Increased Density Alternative

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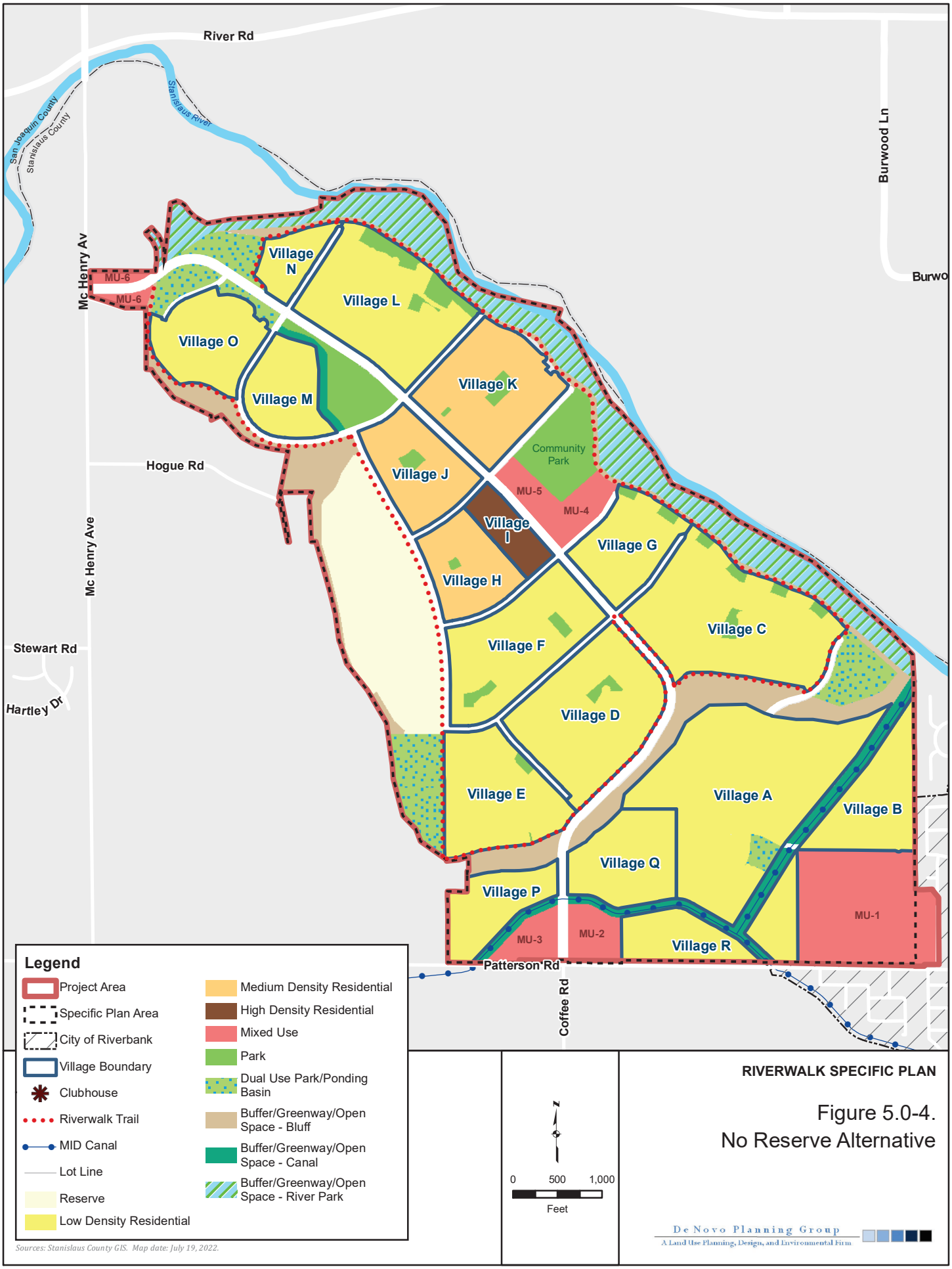
Sources: Stanislaus County GIS; City of Riverbank. Map date: July 19, 2022.

RIVERWALK SPECIFIC PLAN

Figure 5.0-3.
Lower Density Alternative

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River Rd
San Joaquin County
Stanislaus County
Stanislaus River
Burwood Ln
Burwo
Mc Henry Av
Mc Henry Ave
MU-6
MU-6
Village N
Village L
Village O
Village M
Village K
Village J
Community Park
MU-5
MU-4
Village I
Village G
Village H
Village C
Village F
Village D
Village E
Village A
Village B
Village Q
Village P
MU-1
MU-3
MU-2
Village R
Hogue Rd
Stewart Rd
Hartley Dr
Patterson Rd
Coffee Rd
Legend
Project Area
Specific Plan Area
City of Riverbank
Village Boundary
Clubhouse
Riverwalk Trail
MID Canal
Lot Line
Reserve
Low Density Residential
Medium Density Residential
High Density Residential
Mixed Use
Park
Dual Use Park/Ponding Basin
Buffer/Greenway/Open Space - Bluff
Buffer/Greenway/Open Space - Canal
Buffer/Greenway/Open Space - River Park
Sources: Stanislaus County GIS. Map date: July 19, 2022.
N
0
500
1,000
Feet
RIVERWALK SPECIFIC PLAN
Figure 5.0-4.
No Reserve Alternative
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