

CERTIFYING FINAL ENVIRONMENTAL IMPACT REPORT, SCH# 93042089

CROSSROADS COMMUNITY SPECIFIC PLAN

(The planning area is located to the southwest of the City and is bordered on the north and east by the Modesto Irrigation District (MID) main irrigation canal, to the south by Claribel Road, and to the west by Oakdale Road).

CITY COUNCIL RESOLUTION NO. 97-21

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CITY OF RIVERBANK

CITY COUNCIL RESOLUTION NO. 97-21

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVERBANK CERTIFYING THE FINAL CROSSROADS COMMUNITY SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT AS ADEQUATE

WHEREAS, the City of Riverbank has prepared the "Crossroads Community Specific Plan" to provide comprehensive guidelines for development of an area comprising 687 acres adjacent to the Riverbank City limits bordered on the north and east by the Modesto Irrigation District Main Irrigation Canal, on the south by Claribel Road and on the west by Oakdale Road; and

WHEREAS, the City of Riverbank has adopted the role of lead agency for purposes of environmental review of the proposed Crossroads Community Specific Plan under the California Environmental Quality Act; and

WHEREAS, a Final Environmental Impact Report (Final EIR) has been prepared for the proposed Crossroads Community Specific Plan; and

WHEREAS, The Final EIR consists of the Draft Crossroads Community Specific Plan Environmental Impact Report (Draft EIR) prepared by EMC Planning Group Inc., dated September 1996; the Final Crossroads Community Specific Plan Environmental Impact Report prepared by EMC Planning Group Inc., dated January 1997; and such additional oral and written responses by the City of Riverbank to comments on the above documents as the City Council may choose to incorporate in the Final EIR; and

WHEREAS, the Final EIR analyzes at a programmatic level the environmental impacts that would occur from future development of the properties included within the Specific Plan under the proposed land use designations and identifies the potential significant environmental impacts of such development; and

WHEREAS, the Final EIR identifies and recommends feasible mitigation measures for such potential significant environmental effects, which measures provide policies and programs for future development of the properties within the Specific Plan that will be required to be complied with and which will reduce such potential environmental effects to a level of insignificance; and

WHEREAS, the Final EIR identifies potential significant environmental effects for which no feasible mitigation measures exist; and

WHEREAS, the Final EIR has been prepared in compliance with the procedural and substantive requirements of the California Environmental Quality Act (CEQA) as amended; and

WHEREAS, the Planning Commission of the City of Riverbank held a duly noticed public hearing on February 18, 1997 concerning the proposed Crossroads Community Specific Plan and the Crossroads Community Specific Plan Final EIR and adopted a resolution recommending that the City Council certify the EIR as adequate pursuant to the recommended modifications contained in Attachment A; and

WHEREAS, the City Council of the City of Riverbank held a duly noticed public hearing on March 10, 1997 concerning the proposed Crossroads Community Specific Plan and the Crossroads Community Specific Plan Final EIR; and

WHEREAS, the Crossroads Community Specific Plan Final EIR is an informational document of which the City Council of the City of Riverbank reviewed and considered the information contained therein prior to considering the merits of the Crossroads Community Specific Plan at said hearing; and

WHEREAS, the City Council of the City of Riverbank has determined that, as a result of its inspections and investigations and of studies made on its behalf, and of testimonies offered at said hearing, the best interests of the City of Riverbank and of its residents would be served by certifying, as required by Section 15090 of the State CEQA Guidelines, that the Final EIR was completed in compliance with the requirements of CEQA, that the Final EIR was presented to and considered by said Planning Commission prior to considering the merits of the Crossroads Community Specific Plan, and that said Final EIR is adequate to address the potential environmental effects of said Plan.

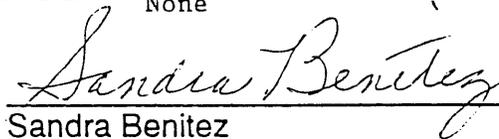
NOW, THEREFORE, the City Council of the City of Riverbank hereby CERTIFIES that the Final EIR has been prepared in compliance with the requirements of CEQA and is adequate for the consideration of all actions and approvals required for the adoption of the Crossroads Community Specific Plan.

* * * * *

I hereby certify that the foregoing is a full, true and correct copy of the resolution duly and regularly adopted and passed by the City Council of the City of Riverbank, California, at a regular meeting held on the 10th day of March, 1997 by the following vote:

AYES:	COUNCILMEMBER:	Lineberger, Shewmake, White, Whorton,
NOES:	COUNCILMEMBER:	and Mayor Benitez.
ABSENT:	COUNCILMEMBER:	None
ABSTAIN:	COUNCILMEMBER:	None
	COUNCILMEMBER:	None

Dated: March 10, 1997



Sandra Benitez
Mayor

Attest:



Elise Cunningham
City Clerk

EXHIBIT A

Planning Commission Recommended Modifications to EIR

Crossroads Community Specific Plan Environmental Impact Report: Planning Commission Recommendations

The Planning Commission held a public hearing on February 18, 1997 to consider the Crossroads Community Specific Plan Environmental Impact Report (EIR) . The Planning Commission voted to recommend certification of the EIR subject to the following modifications. Recommended additions to language included in the EIR are shown with underline type and recommended deletions are shown with ~~strikethrough~~ type. Modifications to mitigation measure language have been reflected in the findings contained in the City Council Project Consideration packet.

1) Mitigation measure 24 of the draft EIR reads as follows:

24. Contractor specifications for any proposed construction project shall include the SJVUAPCD dust control measures and shall be printed on or affixed to plans to be submitted to the Building Department for review and approval prior to issuance of a grading permit for each specific development project. The following SJVUAPCD emission reduction measures shall be implemented:

- Suspend earth moving or other dust-producing activities during periods of high winds when dust control measures are unable to avoid visible dust plumes.
- Provide equipment and staffing for watering of all exposed or disturbed soil surfaces sufficient to suppress dust plumes, including weekends and holidays. An appropriate dust palliative or suppressant, added to water before application, should be utilized.
- Water or cover stockpiles of debris, soil, sand or other materials that can be blown by the wind.
- Sweep construction area and adjacent streets of all mud and debris, since this material can be pulverized and later re-suspended by vehicle traffic.
- Limit the speed of all construction vehicle to 15 miles per hour while traveling on unpaved surfaces.
- Water all inactive portions of the site with an appropriate dust suppressant, cover, or seed them.
- During rough grading and construction, access to construction sites. should require the building of an apron into the plan area from

adjoining paved roadways. The apron should be paved or have a petroleum-based palliative applied.

Planning Commission Recommendation: The Planning Commission recommends that this measure be modified to read:

24. Contractor specifications for any proposed construction project shall include the SJVUAPCD dust control measures and shall be printed on or affixed to plans to be submitted to the Building Department for review and approval prior to issuance of a grading permit for each specific development project. This project is subject to District Regulation VIII. The purpose of Regulation VIII is to reduce the amount of fine particulate matter (PM-10) entrained into the ambient air from manmade sources. The Rules within Regulation VII that apply to this project are Rule 8010 (Administrative Requirements), and Rule 8020 (Construction, Demolition, Excavation, and Extraction Activities). Rule 8030 (Handling and Storage of Bulk Materials), Rule 8060 (Paved and Unpaved Roads) and Rule 8070 (Parking, Shipping, Receiving, Transfer, Fueling and Service Areas) may apply to this project depending on construction practices employed at the site.

The Planning Commission also recommends that the mitigation monitoring program entry for this mitigation be revised to read:

Mitigation 24: Contractor specifications for any proposed construction project shall include the SJVUAPCD dust control measures and shall be printed on or affixed to plans to be submitted to the Building Department for review and approval prior to issuance of a grading permit for each specific development project. This project is subject to District Regulation VIII. The purpose of Regulation VIII is to reduce the amount of fine particulate matter (PM-10) entrained into the ambient air from manmade sources. The Rules within Regulation VII that apply to this project are Rule 8010 (Administrative Requirements), and Rule 8020 (Construction, Demolition, Excavation, and Extraction Activities). Rule 8030 (Handling and Storage of Bulk Materials), Rule 8060 (Paved and Unpaved Roads) and Rule 8070 (Parking, Shipping, Receiving, Transfer, Fueling and Service Areas) may apply to this project depending on construction practices employed at the site.

Agency/Individual Responsible for Implementation:	Future developers
Implementation Timing:	Prior to issuance of grading permits
Mitigation Specifications:	Contractor specifications for any proposed construction project shall be submitted to the Building Department for review and

approval prior to issuance of a building permit for that specific development project. Future applicants shall work with the SJVUAPCD to determine the most appropriate model to use to determine potential dust emissions from construction activities.

Agency/Individual
Responsible for
Monitoring:

~~Planning Director~~ Developer

Action by
Monitor:

Review specifications in conjunction with
APCD staff

- 2) **Planning Commission Recommendation:** The Planning Commission recommends that the following language be added to the mitigation recommended for the secondary impact of mitigation measure 25.

25. Crossroads Community developers proposing development adjacent to Morrill, Roselle, Oakdale, and Claribel Roads and development adjacent to the Major Neighborhood Collectors and the Neighborhood Collectors (designated Primary Neighborhood Collectors only) located within the project, shall conduct acoustical analyses. Such analyses shall determine the potential future noise contours for these roadways using the best available SAAG Model Land Use Listing and similar planning forecasting models. Proposed structures that would be located within areas that exceed the Riverbank General Plan noise standards (outdoors: 60 dB; indoors: 45 dB) shall be required to provide appropriate mitigations such as setbacks, building design measures, and/or sound walls, subject to review and approval of the planning director prior to issuance of a building permit.

Secondary Impact from implementation of mitigation: Soundwalls are one-dimensional and unarticulated monolithic structures. This is considered to be an objectionable and potentially significant negative aesthetic impact.

Mitigation for secondary impact: The city shall require of all developers proposing soundwalls to submit soundwall design plans to the City of Riverbank Planning Director for review and approval. Soundwall design plans shall be integrated with a landscaping plan that incorporates a variety of vegetation (species and heights). Wall designs shall include surface relief features (e.g. sconces) such as wood, steel or concrete affixed to the outer wall. Such features could be free-standing trellises straddling soundwalls (or attached to walls). Wall designs shall also include anti-graffiti treatment. Straight lengths of wall exceeding 50 feet without relief such as those described above shall not be permitted.

- 3) **Planning Commission Recommendation:** The Planning Commission recommends that the mitigation monitoring requirements for mitigation measure 25 be revised as follows:

Mitigation 25: Crossroads Community developers proposing development adjacent to Morrill, Roselle, Oakdale, and Claribel Roads and development adjacent to the Major Neighborhood Collectors and the Neighborhood Collectors (designated Primary Neighborhood Collectors only) located within the project, shall conduct acoustical analyses. Such analyses shall determine the potential future noise contours for these roadways using the best available SAAG Model Land Use Listing and similar planning forecasting models. Proposed structures that would be located within areas that exceed the Riverbank General Plan noise standards (outdoors: 60 dB; indoors: 45 dB) shall be required to provide appropriate mitigations such as setbacks, building design measures, and/or sound walls, subject to review and approval of the planning director prior to issuance of a building permit.

Mitigation for secondary impact: The city shall require of all developers proposing soundwalls to submit soundwall design plans to the City of Riverbank Planning Director for review and approval. Soundwall design plans shall be integrated with a landscaping plan that incorporates a variety of vegetation (species and heights). Wall designs shall include surface relief features (e.g. sconces) such as wood, steel or concrete affixed to the outer wall. Such features could be free-standing trellises straddling soundwalls (or attached to walls). Sound walls shall be treated with graffiti-resistive material. Straight lengths of wall exceeding 50 feet without relief such as those described above shall not be permitted.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

Noise model run and recommendations for mitigating any potential noise impacts shall be integrated as part of a development application.

Mitigation
Specifications:

Noise model shall be conducted by a qualified noise consultant. ~~Due to their negative aesthetic impact, sound walls greater than six feet shall not be a generally accepted method to alleviate noise impacts.~~

Agency/Individual
Responsible for
Monitoring: Planning Director

Action by
Monitor: Verify model run

- 4) **Planning Commission Recommendation:** The Planning Commission recommends that mitigation measure 7 be revised to indicate that interim access may be allowed on Claribel Road to the project site only at the discretion of the City. The revised measure would read as follows:

7. Widen Claribel Road to four travel lanes along the project frontage and to a point 1,000 feet beyond the Oakdale and Roselle Avenue intersections. This improvement should be in place prior to full build-out of the project. The road should be widened when peak hour traffic on Claribel Road between Oakdale Road and Roselle Avenue reaches about 1,200 VPH. Based on interpolation between "Existing" and "Existing Plus Project" traffic volumes, this improvement should be installed when approximately 80-85% of the project has been developed. The cost of this improvement should be credited against the project's responsibility for unfunded cumulative mitigation.

Properties along Claribel Road may, at the discretion of the City, include interim access from Claribel until such time as the roadway is upgraded to expressway status. All properties receiving such access shall include a secondary access from a roadway other than Claribel that can become a primary access at the time Claribel is upgraded.

**CROSSROADS COMMUNITY
SPECIFIC PLAN
FINAL
ENVIRONMENTAL IMPACT REPORT**

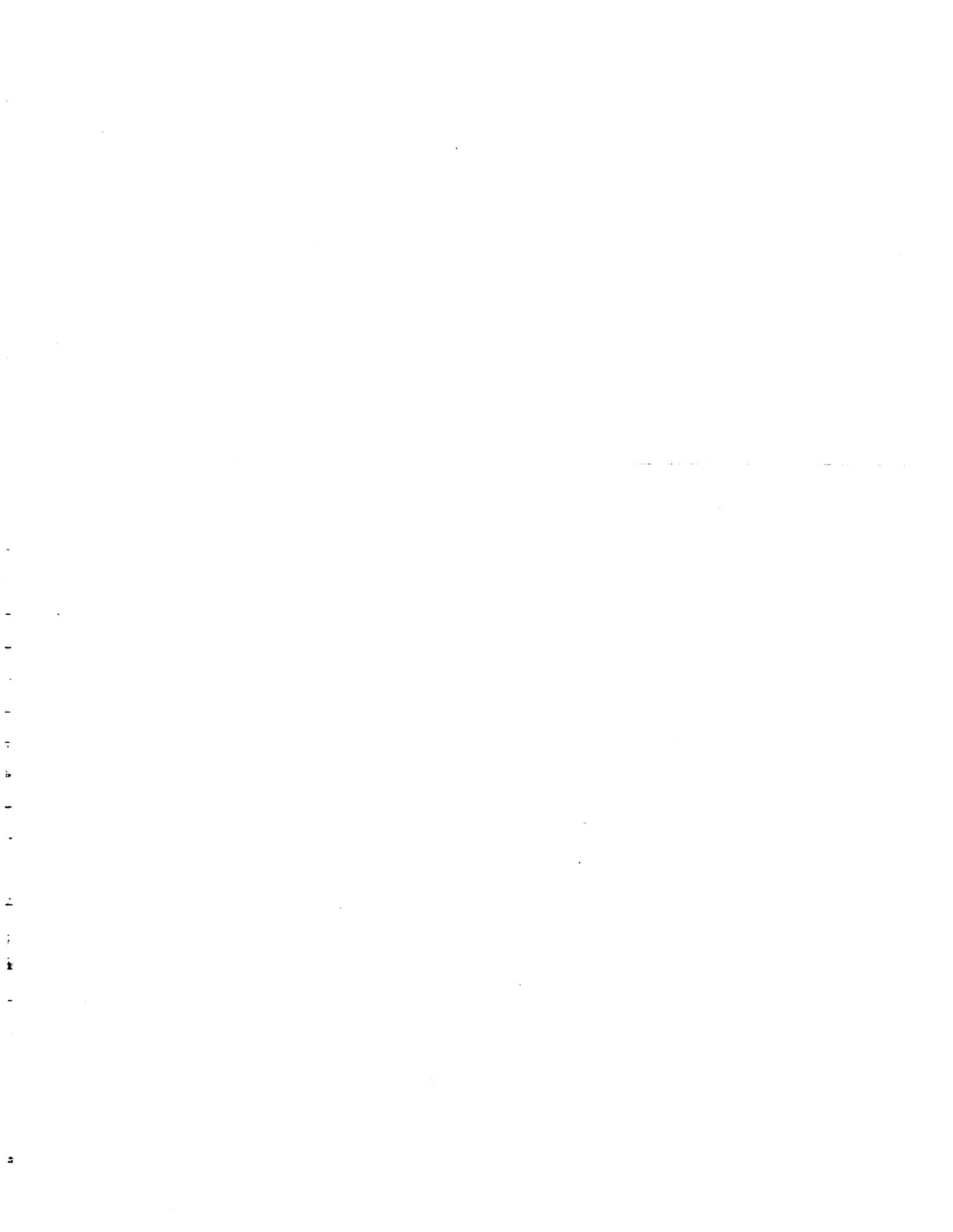
**CITY OF RIVERBANK
CERTIFIED March 1997**

Introduction to the Crossroads Community Specific Plan Environmental Impact Report

The Crossroads Community Specific Plan Environmental Impact Report (EIR) was certified by the Riverbank City Council on March 10, 1997. The EIR, as certified, consists of four parts:

- 1) Crossroads Community Specific Plan Draft EIR
- 2) Crossroads Community Specific Plan Final EIR
- 3) Crossroads Community Specific Plan Final EIR Errata Sheet
- 4) Crossroads Community Specific Plan Final EIR - Planning Commission Recommended Changes

This document includes each of these parts separated into sections for easier reference.



**CROSSROADS COMMUNITY
SPECIFIC PLAN
DRAFT
ENVIRONMENTAL IMPACT REPORT**

**CITY OF RIVERBANK
September 1996**

Crossroads Community Specific Plan

**Draft
Environmental Impact Report**

Prepared for:

City of Riverbank
6707 Third Street
Riverbank, California 95367

September 1996

Prepared by:



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Summary

This Summary is intended to be read in conjunction with the complete EIR in order for the reader to gain a complete and in-depth understanding of the project and its potential environmental impacts.

The lead agency, through the Initial Study and Notice of Preparation process, has identified various areas in which impacts could occur upon project implementation. These include geology, soils, hydrology, biological resources, traffic and circulation, air quality, land use compatibility, visual quality, noise, public facilities and services, population and housing, archaeological resources, and energy. This EIR evaluates those areas to determine the significant and insignificant impacts the project may cause.

There are three possible classifications for identified impacts, including *Unavoidable Significant Adverse Environmental Impacts*, *Impacts Reduced to a Less-than-Significant Level*, and *Impacts Determined not to be Significant*. This EIR identifies one *Unavoidable Significant Adverse Environmental Impact* relating to air quality. This is discussed in section 2.5 of the EIR. All other impacts could be *Reduced to a Less-than-Significant Level* after implementation of mitigations.

Project Description

A full project description of the project is contained in Section 1 of this EIR. The following is a brief summary of that description.

The proposed project is the Crossroads Specific Plan. As a component of a general plan, a specific plan provides comprehensive guidelines for areas located within, or to be placed within, a city's sphere of influence, offering more specific information than is available in a general plan. The *Crossroads Community Specific Plan* provides an opportunity to comprehensively design and plan the southern edge of the city. It also allows the city a means to evaluate the implications of expanding the city's boundaries, and at the same time, provide a forum for community input.

The following discussion summarizes the characteristics of the specific plan. More specific details of the specific plan can be obtained by reading the specific plan in its entirety. The design concept of the Crossroads Community utilizes the following neo-traditional/sustainable community concepts:

- A hierarchy of streets which are interconnected and radiate throughout the community, reinforce the center of the community, and link to the surrounding city.
- A "village center" with mixed uses to encourage a lively and active focal point for the entire neighborhood.
- A pedestrian-oriented circulation system, with a network of walkways, linear parks, and bicycle paths that link the community together.
- A mix of varied land uses to encourage alternative modes of transportation.
- Distinct neighborhoods which are components of the overall community.

- Urban design policies which encourage a neo-traditional approach to lot layout and site design.

These components are further described in the Specific Plan sections outlined below.

Land Use

The *Crossroads Community Specific Plan* is comprised predominantly of residential neighborhoods that are organized around community facilities, commercial uses and open space. This land use concept, which is a concentric design, linking the community through a hierarchical and interconnected circulation system which focuses on a "Village Center." The specific plan includes diagonal roadways radiating out from the village center to create a well-defined linkage between the center of the community, the various neighborhoods, and the other major activity generators: the school/park; the community park; and the industrial business park/regional commercial area. A pedestrian-scaled village center is planned at the geographic center of the community. It is envisioned to serve basic shopping needs of the community and to function as a social gathering place, within walking or biking distance to the majority of the neighborhoods. The proposed project also provides a regional and highway commercial area to draw regional shoppers.

The proposed land uses include residential, commercial/industrial, parks, public/quasi-public, and schools. Roads will encompass approximately 147 acres or 21 percent of the total acreage.

Residential

The residential category is the most prevalent land use within the project site. There are five different residential land use categories planned for the Crossroads Community. Each of these categories is designed to provide a range of lot sizes, housing types, and flexibility to allow for build-out of the planing area based on the city's needs and what the future market will bear; while at the same time providing an overall development framework for plan implementation. The land use categories include Rural/Low Density Residential (RLR), Low/Medium Density Residential (LMR), Dual Designation: Low/Medium and Medium/High Density Residential (LMR/MHR), Medium/High Density Residential (MHR), and Senior Housing.

Commercial and Industrial Business Park

The second most prevalent land use category within the project site is commercial/industrial business park. Approximately 90 acres have been set aside for commercial and industrial business park land uses. The types of commercial land uses include Village Commercial, Village Commercial/Public Quasi-Public, Highway Commercial, and Regional Commercial/Industrial/Business Park.

Parks and Open Space

Based on general plan guidelines as well as a park needs analysis of existing and future parks in the project site, approximately 37 acres of park land and open space are designated in the specific plan. This park land and open space has been developed to include Community Serving Park, Neighborhood Parks, Linear Parks and Recreational Trails, and External Roadway Buffers.

Schools

The majority of the project site currently falls within the boundaries of the Sylvan Union School District and the Modesto High School District. A small portion of the project site east of Roselle Avenue is served by the Riverbank Elementary School District and Oakdale Union High School District.

Based on the projected number of housing units to be developed within the project site, it is estimated that build-out of the Crossroads Community would generate a total of 645 K-5 grade school students, 318 middle school students (6-8 grade), and 376 four-year high school students (9-12 grade).

Based on the projected student population, a new elementary school will be required to serve future residential development within the project site. A 10-acre parcel in the northeastern portion of the project site, adjacent to the three-acre neighborhood park, has been designated as a school site.

Because the projected housing units will not produce the number of students to warrant construction of additional middle or high school facilities within the project site, it is anticipated that middle and high school students generated from the Crossroads Community will be accommodated in either existing or proposed new school facilities outside the project site boundaries.

Public/Quasi-Public

Other parcels designated as Public/Quasi-Public, in addition to the Village Commercial/Public/Quasi-Public are described above, include existing irrigation canals and two parcels totaling nine acres owned by the M.I.D.. These parcels are located on either side of Roselle Avenue in the southeastern portion of the project site.

Another Public/Quasi-Public designation is proposed as an overlay to a small Low/Medium Density Residential parcel located at the northwest corner of the proposed Roselle Avenue/Crawford Road intersection. The intent of this designation is to allow for a future transit stop, in the event that Roselle Avenue becomes a transit linkage as proposed in the nearby Village One Plan prepared by the City of Modesto.

Circulation

Using the goals, objectives and policies laid out in the land use plan, the circulation element for the *Crossroads Community Specific Plan* provides a definition of the roadway hierarchy proposed for the project site. The circulation plan for the proposed project establishes a framework for the overall development of appropriately scaled streets, pedestrian linkages, and bicycle paths which help to establish a sense of place within the community and allow for a variety of uses other than those focused on automobile transportation, while allowing for a linkage to external, region-serving roadways.

The circulation system for the proposed project consists of external roadways, which flow along the periphery of the project site, and link the project site to the existing City of Riverbank. Within the project site a series of internal roadways are proposed, which move traffic into and throughout the project site.

External Circulation System

The external circulation system consists of expressways, arterials, and collectors. The project site is bounded by four external regional roadways, Claribel Road, Oakdale Road, Morrill Road, and Roselle Avenue. With the exception of Morrill Road, these roadways are designated by the general plan as arterial roadways. Morrill Road is designated by both the general plan and the specific plan as a major external collector. Improvements to these roadways will be required to accommodate the project, as described in section 2.5, Circulation.

Internal Circulation System

The objective for the proposed project's circulation system is to provide vehicular, pedestrian, and bicycle access throughout the community interlinking the major components of the planned community to one another. The circulation plan is proposed to consist of neighborhood collectors, minor streets and an interconnected recreation trail/bikeway system.

The following transportation infrastructure will comprise the proposed internal circulation system: Neighborhood Collectors, Minor Streets, Recreation Trail/Bikeway System Linear Parks, and Traffic Circles.

Public Services and Facilities

The extent and need for public services, facilities and community facilities (i.e., water, sewer, storm drainage, solid waste, schools, parks, police and fire stations) to accommodate future development within the project site is addressed in the *Crossroads Community Plan for Services* (EMC Planning Group Inc. 1994), the *Riverbank Village Specific Plan Infrastructure Report* (Thompson-Hysell Inc. 1991), the *City of Riverbank Wastewater Treatment Plant Master Plan* (Nolte and

Associates 1991) and the *Crossroads Community Specific Plan Municipal Space Needs Analysis* (EMC Planning Group Inc. 1991). The *Specific Plan Municipal Space Needs Analysis* used the existing space needs assessment, prepared by the City of Riverbank in 1986, to project the municipal space needs of the city hall and the police department. These two reports were used to determine the need for specific facility requirements for the Crossroads Community and are available at city offices.

Sanitary Sewer

To accommodate the build-out of the proposed project, the extension of a major 30-inch trunk line through the project site to the wastewater treatment plant will be required. Additionally, wastewater collection lines must be installed throughout the project site; a smaller sized line (approximately 18 to 21 inches) will be sufficient for the collection system to be located within the project site. However, sewer facilities in each phase of development should be installed as needed, and as more detailed infrastructure plans are developed, details of sewer line sizes and the need for sewer pump stations will require further review by the City Engineer.

Water

Water to the project site will be provided by new wells interconnected with the city's grid water distribution system. The city public works department has recommended that a water well be planned for each 500 homes. Historically, this has been sufficient to provide domestic supply and fire flow. With 2,036 homes projected for build-out for the project site, the number of new wells expected to be required to meet the anticipated demand is four or five. The City Engineer expects that five new wells will be required if no large storage facility or other water service is provided.

The city has recommended a 12-inch water grid system for major water lines, occurring at approximately half-mile spacing. The remaining water distribution system pipe sizes will range from 6 to 12 inches. Facilities in each phase must be installed as development occurs, pursuant to city review.

Storm Drainage

To accommodate future development within the project site, a local collection system, park/detention basins, standard detention basins, and pumping system are recommended by the city to serve the proposed project.

Storm drainage collection is accomplished by a series of detention basins, interconnected with a disposal and outlet system. Detention will be provided in open space land uses, with a portion of the storm drainage volume detained in public parks. Criteria for design of park/detention basins will need to be established. A portion of the detention volume will be detained in otherwise unusable areas such as near intersections with canals and streets. The total detention volume required is approximately 67 acre-feet. This volume is accomplished by having six separate basins

interconnected with a centrally located pump station for ultimate disposal to the existing city drainage system and the Stanislaus River.

Schools

The proposed project site is within the jurisdiction of the Sylvan Union Elementary School District and the Modesto High School District. A full elementary school is required to serve future development within the project site. One elementary school site of 10 acres has been located in the northeastern portion of the project site, in connection with a three-acre neighborhood park.

The school is situated on a local street, in order to avoid conflicts between cars and children. The school has been situated to minimize the need for students to be transported to school and to maximize the opportunities for students to walk or ride bicycles. Since the school is a "walker" school, pedestrian and bicycle friendly facilities will be provided on the local street network. The elementary school is located with direct walkable roadway and linear parkway linkages to the surrounding neighborhoods.

Furthermore, the school was sited to separate it from the M.I.D. main canal. A buffer, which includes a linear park along the canal, a bicycle path, a local street and its right-of-way, and a small neighborhood park is provided between the canal and the proposed school site.

Parks

Three parks are proposed to be located within the project site: one nine-acre community park, two neighborhood parks of eight acres and three acres in size and approximately 17 acres of linear park and recreation trails. All of the parks are designed to be linked and accessible to the neighborhoods and the other major activity areas within the community. The three types of parks include Community Park, Neighborhood Parks and Linear Parkways.

Fire Protection

The Riverbank Fire Protection District (RFPD) provides fire protection service to the City of Riverbank. Fire protection is solely funded by district taxes levied against individual property owners for operational costs. Development fees are charged to provide additional capital facilities.

The Riverbank Fire Protection District has indicated that at a trigger point of 500 residential units and 200,000 square feet of commercial/industrial development (or some other comparable combination equaling this level of development), a substation would need to be located within the project site. The substation can be located, along with a police facility, within the highway commercial area.

Unavoidable Significant Adverse Environmental Impacts

Soils

Impact. Build-out of the plan area will result in the loss of approximately 190 acres of prime farmland and 443 acres of non-prime farmland (or Farmlands of Statewide Importance) south of Morrill Road. Land under Williamson Act contract may not be converted to other uses until termination or cancellation of the contract.

The proposed project will have an unavoidable significant adverse environmental impact on agricultural resources. There are no feasible mitigation measures that will reduce this unavoidable impact to a level of insignificance. Therefore, the city will have to adopt a statement of overriding considerations regarding the loss of prime agricultural land.

Air Quality

Impact. The proposed project will result in emissions of ROG and NO_x that exceed the APCD's threshold of significance. Implementation of the following mitigation measures will reduce the impacts on air quality associated with future development on the project site by approximately 10 to 20 percent. However, there is currently no practical way to reduce impacts by nearly 90 percent to bring project impacts below the APCD significance thresholds without eliminating residential areas and/or eliminating commercial areas. *Therefore, the impact of the proposed project on regional air quality is considered an unavoidable significant adverse environmental impact.*

Mitigations

17. Project plans for all proposed gas stations shall include provision for a compressed natural gas fueling station, subject to the review and approval of the APCD and city prior to issuance of a building permit.
18. Crossroads Community developers shall incorporate 50 percent more trees, including existing trees, into landscaped areas than required by the City of Riverbank land-use regulations. These landscaped areas shall be incorporated into the project designs, subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.
19. In anticipation of expanded bus service to the plan area, Crossroads Community developers shall coordinate with the City of Riverbank to determine specifications and locations of bus stops necessary at the plan area. They shall then incorporate these stops into their project designs as easements, which shall be submitted to and approved by the City Planning Director prior to the approval of a final subdivision map.

20. Individual project plans for residential development shall include provisions for electrical recharge outlets conveniently located in all residential garages for electric cars. This requirement shall be included in future development plans, subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.
21. If the Crossroads Community developers proposing residential development propose to install fireplaces, they shall be required to install EPA-certified wood stoves, pellet stoves or fireplace inserts instead of conventional open-hearth fireplaces. The use of natural gas-fired fireplaces should be encouraged. This requirement shall be subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.
22. Crossroads Community developers proposing residential development shall provide outdoor electrical outlets at residences to allow use of electric lawn and landscape maintenance equipment. This requirement shall be subject to the review and approval of the city Planning Director prior to approval of a final subdivision map.
23. Crossroads Community developers proposing residential development shall make natural gas available in residential backyards to allow use of natural gas-fired barbecues. This requirement shall be subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.

Recommendation: Crossroads Community developers should prepare a Transportation Demand Management (TDM) program that incorporates feasible trip reduction measures into the design and operation of all segments of the proposed project. Potential trip reduction measures include, but are not limited to the following:

- a. Assignment of a transportation management coordinator to oversee the implementation of Trip Reduction Programs in both industrial and residential areas;
- b. Implementation of carpool incentives;
- c. Inclusion of bicycle racks, lockers and showers in the design of project employment centers;
- d. Installation of transit shelters as transit routes are expanded into the study area in the future, and subsidization of a portion of the cost of transit passes to encourage ridership;
- e. Contribution to the cost of developing or expanding park and ride facilities near major commute routes. The level contribution should be equivalent to the overall number of project park and ride participants; and
- f. Establishment of, or contributions towards, a tele-commuting center to facilitate the use of tele-commuting as an option to the automobile.

Impacts Reduced to a Less-than-Significant Level

Geology

Impact. Due to the juxtaposition of the project site in relation to the two regional fault systems east and west of the project site, and due to the proximity of the project site to the four active faults located within these regional fault systems, it is reasonable to expect that the project site will experience a large-magnitude earthquake within the usable lifetime of buildings which may be constructed on the project site. *This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.*

Mitigation.

1. All development within the project site shall be designed in accordance with the earthquake standards contained in the Uniform Building Code, subject to the review and approval of the City Engineer prior to issuance of a building permit.

Hydrology

Impact. Surface water run-off from any future residential, commercial, and roadway development within the plan area is expected to contain concentrations of a variety of pollutants, including oil and grease, organic nutrients, pesticides from landscaping, and heavy metals from road and parking area pavements. *This is considered to be a potentially significant environmental impact. However, implementation of Best Management Practices as required by the State Water Resources Board will reduce such impacts to a less than significant level. No additional mitigation is warranted.*

Impact. Surface water run-off from any future residential, commercial, and roadway development within the project site is expected to contain concentrations of a variety of pollutants, including oil and grease, organic nutrients, pesticides from landscaping, and heavy metals from road and parking area pavements. *This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation will reduce the impact to a less-than-significant level.*

Mitigation

2. Crossroads Community developers shall prepare a construction implementation soils analysis and design for the detention basin areas, with the intent that they also be utilized as groundwater recharge facilities. This can be completed in a phased manner and shall be subject to the review and approval of the City Engineer prior to issuance of a building permit for any phase of the project.

Biological Resources

Impact. The project may result in the fill and/or degradation of potential jurisdictional wetlands. *This is considered to be a potentially significant environmental impact. However, implementation of the following mitigations will reduce the impact to a less-than-significant level.*

The policy of the COE is to permit no net loss of functions and values of wetlands. Under Section 404 of the Clean Water Act, the COE is required to issue permits for discharge of dredge or placement of fill into water of the U.S., including adjacent wetlands. In the event the wetlands are determined to be jurisdictional wetlands, conversion of these areas without the required permits obtained from the COE prior to project approval would be in violation of Section 404.

Mitigation.

3. Crossroads Community developers whose projects contain or may affect potential wetlands 1-4 depicted in Figure 8 shall prepare additional wetlands assessments. The wetlands assessments shall be conducted by a qualified wetlands specialist to determine the presence or absence of potential jurisdictional wetlands on the plan area. These additional assessments are subject to review of the city prior to any development activity in these areas (see Figure 8).
4. Potential jurisdictional wetlands as depicted on Figure 8, shall be reviewed by the COE to determine wetland status prior to city approval of a tentative subdivision map for any individual development project. Depending on the total wetlands acreage, the project would require either an Individual 404 Permit or a Nationwide Permit. For wetlands totaling under 10 acres, a pre-discharge notification would need to be submitted to the COE to determine if the project qualifies under a Nationwide Permit; mitigation may or may not be required under this scenario. For areas totaling 10 acres or greater, the project applicant must apply for an Individual Permit, which requires the attachment of a mitigation monitoring plan plus an analysis of alternative site designs. Mitigation measures may include avoiding wetlands; minimizing impacts to wetlands plus on-or off-site replacement at a maximum ratio of 3:1; or off-site acquisition of "in kind" wetlands at a minimum 1:1 ratio. In the event that an Individual 404 permit is required, mitigation measures must address avoidance as an alternative in order for the permit application to be considered by the COE.

Impact. Construction carried out pursuant to the specific plan may result in the mortality of wintering burrowing owls. *This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.*

Mitigation

5. Pre-construction surveys for active burrowing owl dens in areas identified in Figure 8 shall be required of proposed future projects in or adjacent to the area of potential wintering habitat identified in this study. Standard procedures shall be followed for the survey, in coordination with the CDFG, subject to review and approval of the City prior to issuance of a grading or building permit. If present, the owls shall be passively relocated to off-site habitat contiguous with the plan area, subject to the determination of the wildlife biologist. Relocation of the owls shall be performed by a qualified wildlife biologist, in coordination with CDFG. In the event that burrowing owls are determined to be nesting, the owls shall be relocated after a wildlife biologist has determined that the young have fledged. Passive relocation involves installing one-way doors in burrow entrances. The relocation shall be monitored for one week to confirm use of alternate burrows. Original burrows shall be filled to prevent reuse.

Impact. Tree removal and/or grading activities of projects proposed in the plan area could result in incremental loss of nesting habitat, and possibly the loss of young or eggs of white-shouldered kite, red-tailed hawk, northern harrier, loggerhead shrike and horned lark due to incidental take or indirect impacts near nest sites. *This is considered a potential significant impact. However, implementation of the following mitigation will reduce the impact to a less-than-significant level.*

Mitigation

6. Crossroads Community developers shall retain a qualified wildlife biologist to conduct nest surveys for the white-shouldered kite, red-tailed hawk, northern harrier, loggerhead shrike and horned lark prior to construction activities for those projects scheduled to begin during breeding season (March 15 to July 31). If nests are found and eggs or nestlings are present, construction activity must be delayed until after the young have fledged, subject to the determination of the wildlife biologist. If no nests are found, construction can begin immediately.

Impact. The project may impact the Swainson's hawk, a threatened species under the CESA. Implementation of the project would result in the conversion of approximately 586 acres of pasture and approximately 47 acres of orchard to urban use (acreage based on Figure 3). These areas, though not highest quality foraging habitat, are considered suitable foraging habitat for the Swainson's hawk and are located within seven miles of a potential Swainson's hawk nest site. No other nest sites are known to exist within ten miles of the plan area.

The California Department of Fish and Game recommends mitigation for the loss of Swainson's hawk foraging habitat located within ten miles of nest sites. However, no program for foraging habitat mitigation has been adopted to date by the City, state or any regional agency.

Development of the project site would result in a less than one percent reduction in available foraging habitat for Swainson's hawks occupying one potential nest site, assuming a foraging radius of ten miles. *This incremental reduction in available foraging habitat is not considered significant on a project specific basis. No project specific mitigation is warranted.* Development of the plan area will contribute to the continued loss of foraging habitat on a regional and cumulative basis. Cumulative impacts relating to the Swainson's hawk are addressed in section 3.3.

Traffic and Circulation

Impact. During the A.M. and P.M. peak hours, three roadway segments are projected to operate below LOS C:

- Claribel Road is expected to decline from LOS D to LOS E/F from Claus Road to State Route 108;
- Oakdale Road is expected to decline from an acceptable LOS to LOS F north of Claribel Road to State Route 108; and
- Roselle Avenue is also expected to decline from an acceptable LOS to LOS F north of Claribel Road to State Route 108.

This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measures will reduce the potential impact to a less-than-significant level.

Mitigation

The project's fair share for external transportation mitigation is provided in Chapter 9 of the Crossroad Community Specific Plan - Financing Program. The project shall be required to pay city/county and inter-city fees or construct improvements based on the project's fair-share estimate. Any amount expended for external transportation improvements beyond the projects fair share shall be credited against the project's responsibility for unfunded or unprogrammed cumulative mitigation or be reimbursed by the city/county and/or inter-city fee program.

Claribel Road. Widen Claribel Road to four lanes. This improvement will become necessary in the future whether or not the project proceeds. Improvements to Claribel Road are included in the City of Modesto's CFF program and were included in the inter-city fees (as the Modesto/Oakdale/Riverbank Expressway), but have been dropped from the County's Public Facilities Fee (PFF) program. No source of immediately available funds exists to guarantee that the road will be widened. If Claribel Road improvements have not been implemented as part of the county's fee program, the project will be responsible for funding improvements to Claribel Road as indicated in the following mitigation.

7. Widen Claribel Road to four travel lanes along the project frontage and to a point 1,000 feet beyond the Oakdale and Roselle Avenue intersections. This

- The Claus Road/Santa Fe Avenue intersection is expected to decline from LOS C to LOS D/E during the morning peak hour and from LOS D to LOS D/E during the evening peak hour.
- The Roselle Avenue/Patterson Road intersection will decline from LOS C to LOS D during the morning peak hour and from LOS D to LOS E during the evening peak hour.
- The Roselle Avenue/Crawford Road intersection does not currently exist. However, upon implementation of the proposed project, Claribel Road will be extended through the plan area to intersect with Roselle Avenue. This intersection is expected to operate at LOS C during the morning peak hour and LOS F during the evening peak hour.
- The Oakdale Road/Crawford Road intersection will decline from LOS A to LOS D/F during both the morning and evening peak hours.
- The Coffee Road/Patterson Road intersection will decline from LOS D to LOS E during both the morning and evening peak hours.
- The Roselle Avenue/Claribel Road intersection will decline from LOS A to LOS F during the morning peak hour and from LOS B to LOS F during the evening peak hour.
- The Oakdale Road/Claribel Road intersection will decline from LOS B to LOS F during both the morning and evening peak hours.
- The Coffee Road/Claribel Road intersection will decline from LOS B to LOS F during the morning peak hour and from LOS C to LOS F during the evening peak hour.

This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.

The majority of these LOS reductions are due to inadequate left-turn channelization and left-turn movements on the minor street approach for all unsignalized intersections. As a result, these LOS reductions do not necessarily imply that the intersection itself would operate unacceptably. At the locations where warrants for signalization are met, left-turn channelization would be implemented in conjunction with signalization.

Intersections listed above that are not in the immediate vicinity of the project but are outside the Modesto sphere of influence, will be mitigated via the project's fair share contribution towards cumulative improvements at these intersections.

Mitigation

10. The Crossroads Community developers shall be responsible for the following improvements to the Oakdale Road/Claribel Road intersection. The

improvement should be in place prior to full build-out of the project. The road should be widened when peak hour traffic on Claribel Road between Oakdale Road and Roselle Avenue reaches about 1,200 VPH. Based on interpolation between "Existing" and "Existing Plus Project" traffic volumes, this improvement should be installed when approximately 80-85% of the project has been developed. The cost of this improvement should be credited against the project's responsibility for unfunded cumulative mitigation.

Oakdale Road. Widen Oakdale Road to four lanes. This improvement will become necessary in the future whether or not the project proceeds and is included in the city/county fee.

8. Widen Oakdale Road between Claribel Road and State Route 108 to four travel lanes. This mitigation should be implemented when traffic volumes reach about 1,200 VPH on Oakdale Road. This traffic volume would likely be reached just north of Claribel Road when about 15% of the project is occupied, but would not be reached north of the regional commercial/business park access until approximately 50% of the project is occupied. The cost of this improvement should be credited against city/county fees.

Roselle Avenue. Widen Roselle Avenue to four lanes. This improvement will become necessary in the future whether or not the project proceeds and is included in the city/county fee.

9. Widen Roselle Avenue between Claribel Road and State Route 108 to four travel lanes. This mitigation should be implemented when traffic volumes reach about 1,200 VPH on Roselle Avenue. This traffic volume would likely be reached just north of Claribel Road when about 15% of the project is occupied, but north of the regional commercial/business park access, about 50% of the project could be occupied before widening would be necessary on this section. The cost of this improvement should be credited against city/county fees.

Impact. During the A.M. peak hour, nine of the 18 study intersections are projected to operate below LOS C. During the evening peak hour, 11 of the 18 study intersections are projected to operate below LOS C:

- The Oakdale Road/Patterson Road intersection will decline from LOS A to LOS E during the evening peak hour.
- The McHenry Avenue/Claribel Road intersection is expected to decline from LOS A to LOS E during the morning peak hour and from LOS B to LOS F during the evening peak hour.
- The Claus Road/State Route 108 intersection is expected to decline from LOS E to LOS F during the morning peak hour and from LOS B to LOS D/F during the evening peak hour.

intersection improvements include signalization, and the provision of left-turn channelization at each approach, with dual left-turn lanes on the eastbound and westbound Claribel Road approach and an auxiliary right-turn lane on the southbound Oakdale Road approach. This is subject to the review and approval of the City Engineer prior to the issuance of the first development permit. The portion of this cost which is included in the existing fee programs should be determined in consultation with Stanislaus County and the City of Riverbank, and the project should be credited applicable costs against fees.

11. The Crossroads Community developers shall be responsible for the following improvements to the Roselle Avenue/Claribel Road intersection. The intersection improvements include signalization and the provision of left-turn channelization at each approach, with the provision of a separate westbound right-turn lane on the Claribel Road approach. This is subject to the review and approval of the City Engineer prior to the issuance of the first development permit. The portion of this cost which is included in the existing fee programs should be determined in consultation with Stanislaus County and the City of Riverbank, and the project should be credited applicable costs against fees.
12. To avoid signalization warrants being met, the Crossroads Community developers shall provide a separate northbound right-turn lane at the Patterson Road/Roselle Avenue intersection. This northbound separate right turn lane may be constructed as the drop lane when going from the 4 lanes section of Roselle Avenue south of Route 108 to the 2 lane section north of Route 108. Therefore, the cost of widening Roselle Avenue to 4 lanes would include the cost for providing a separate right turn lane at this location. This mitigation shall be subject to the review and approval of the City Engineer prior to the issuance of the first development permit.
13. The Crossroads Community developers shall provide separate left- and right-turn lanes on the Crawford Road approach to Roselle Avenue. However, ultimately this intersection will need to be signalized as traffic volumes on Roselle Avenue continue to increase. This mitigation shall be subject to the review and approval of the City Engineer prior to the issuance of the first development permit.

Impact. Three of the five intersections proposed as a part of the project will operate below LOS C during both the morning and evening peak hours:

- The Oakdale Road/North Project Access intersection will operate at LOS D during the morning peak hour and LOS E during the evening peak hour.
- The Oakdale Road/South Project Access intersection will operate at LOS E/F during the morning peak hour and LOS F during the evening peak hour.
- The Roselle Avenue/Highway Commercial Access intersection will operate at LOS E during the morning peak hour and LOS F during the evening peak hour.

This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.

Mitigation

14. When traffic volumes warrant signalization, the Crossroads Community developers shall install a traffic signal at the Oakdale Road/South Project Access intersection. Other intersection improvements include dual left-turns exiting the plan area, with an exclusive northbound right-turn lane into the plan area from Oakdale Road. In addition to the free right-turn lane, a shared through plus right-turn lane should be provided on the northbound Oakdale Road approach into the plan area.
15. When traffic volumes warrant signalization, the Crossroads Community developers shall install a traffic signal at the Roselle Avenue/Highway Commercial Project Access intersection.

Mitigations for the project's cumulative impacts are found in the cumulative discussion in Section 3 of this EIR.

Impact. Access to the highway commercial area in the southeast corner of the plan area is expected to have access problems as traffic in the region increases.

Under short term (i.e. existing plus project) conditions, these two closely spaced intersections may operate satisfactorily if coordinated. However, as traffic volumes in the area increase, the spacing between Claribel Road and the access to the highway commercial becomes more critical, especially with a high generating use such as the highway commercial occupying the site.

This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.

Mitigation

16. The applicant shall locate the access road to the highway commercial off of Roselle elsewhere on Roselle Avenue such that in the cumulative development scenario, access to the shopping center is not limited to right turns in and out only. The future location of an access road shall be based on the premise that left and right turns into and out of the highway commercial area are mandatory.

Air Quality

Impact. The construction activities will result in fugitive dust emissions which must be reduced to the lowest level feasible through implementation of SJVUAPCD

Regulation 8. With implementation of dust control measures, the SJVUAPCD does not consider the impact to be significant.

Mitigation

24. Contractor specifications for any proposed construction project shall include the SJVUAPCD dust control measures and shall be printed on or affixed to plans to be submitted to the Building Department for review and approval prior to issuance of a grading permit for each specific development project. The following SJVUAPCD emission reduction measures shall be implemented:

- Suspend earth moving or other dust-producing activities during periods of high winds when dust control measures are unable to avoid visible dust plumes.
- Provide equipment and staffing for watering of all exposed or disturbed soil surfaces sufficient to suppress dust plumes, including weekends and holidays. An appropriate dust palliative or suppressant, added to water before application, should be utilized.
- Water or cover stockpiles of debris, soil, sand or other materials that can be blown by the wind.
- Sweep construction area and adjacent streets of all mud and debris, since this material can be pulverized and later re-suspended by vehicle traffic.
- Limit the speed of all construction vehicle to 15 miles per hour while traveling on unpaved surfaces.
- Water all inactive portions of the site with an appropriate dust suppressant, cover, or seed them.
- During rough grading and construction, access to construction sites should require the building of an apron into the plan area from adjoining paved roadways. The apron should be paved or have a petroleum-based palliative applied.

Land Use Compatibility

Impact. Agricultural properties to the west and south are most likely to continue agricultural operations in the near future (up to the year 2030) and are expected to be subject to urban pressures that are manifest through the request to curtail agricultural operations that generate noise, dust, smells and require application of chemicals. The potential for future resident's of the proposed project to interfere with the agricultural operations does exist. *This is considered to be a potentially significant impact.* However, with the combination of roads, roads R.O.W., buffer areas and features and parking lots as land use separators, the impact is considered to be less than significant. Furthermore, in the interim period as the area coverts to urban use, the county's right-to-farm ordinance (Stanislaus County Code, Chapter

932) will remain in effect, whereby future homeowners are notified of existing agricultural operations and its concurrent potential nuisances.

Noise

Impact. Future land uses in the Crossroads Community will be subject to increased vehicle traffic noise. *This is considered to be a potentially significant environmental impact. However, implementation of future noise contour studies to be prepared by future developers will provide the necessary information to be used by developers in determining the appropriate building setback and/or building design characteristics that will reduce the potential impact to a less-than-significant level.*

Mitigation

25. Crossroads Community developers proposing development adjacent to Morrill, Roselle, Oakdale, and Claribel Roads and development adjacent to the Major Neighborhood Collectors and the Neighborhood Collectors (designated Primary Neighborhood Collectors only) located within the project, shall conduct acoustical analyses. Such analyses shall determine the potential future noise contours for these roadways using the best available SAAG Model Land Use Listing and similar planning forecasting models. Proposed structures that would be located within areas that exceed the Riverbank General Plan noise standards (outdoors: 60 dB; indoors: 45 dB) shall be required to provide appropriate mitigations such as setbacks, building design measures, and/or sound walls, subject to review and approval of the planning director prior to issuance of a building permit.

Public Facilities and Services

Sanitary Sewer Service

Impact. Inadequate capacity exists at this time to accommodate full build-out of the proposed project. *This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the impact to a less-than-significant level.*

Mitigation

26. As an implementation step of the Specific Plan and subsequent to annexation of the plan area, the proponent(s) of future development shall be required to prepare a public works master plan and a capital improvement program for the plan area prior to future entitlements, subject to the review and approval of the City Planning Director and City Engineer.
27. The capital improvement program for the Crossroads Community shall include payment of the proposed project's fair share of the following

improvements to the city's sewage treatment and collections system: a major trunk line extension in accordance with the current sewer master plan and additional aerators to increase treatment plant capacity. This payment shall be made for each individual development project, subject to review and approval of the City Engineer, prior to approval of a final subdivision map, or any other land use entitlement.

Water Service

Impact. Inadequate water line infrastructure exists at this time to accommodate full build-out of the proposed project. *This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the impact to a less-than-significant level.*

Mitigation

28. Refer to Mitigation 26.
29. The Crossroads Community developers shall coordinate with the city to provide its fair share fees for the city's water system. Fees are subject to review and approval of the City Engineer and shall be paid prior to approval of a final subdivision map.

Impacts Determined Not To Be Significant

Soils

Impact. Based on the soil characteristics of the proposed project site, the potential for erosion during and after construction of the proposed project is slight. Combined with the City of Riverbank requirement for a grading plan and erosion control plan, which requires all developments to adhere to guidelines developed to control erosion, siltation and run-off flows, and the Regional Water Quality Control District's State General Construction Activity Storm Water General Permit, which also dictates strict grading, erosion control and run-off guidelines, the proposed project will not result in significant levels of soils disturbance. *This is considered to be a less-than-significant environmental impact.* No mitigation measures are necessary.

Visual

Build-out of the proposed project will transform 633 acres of the 687 acre rural project site to an urban environment (the 54 acres are already developed). *This is not considered to be a potential significant impact. No mitigation is warranted. However, it should be noted that the Crossroads Community Specific Plan includes substantial amenities for project site roadways (trees and landscaping and detailed design guidelines for buildings on the project site).*

Public Services and Facilities

Fire Service

There are no significant impacts relating to the proposed project. Mitigation is not required.

Police Service

There are no significant impacts relating to the proposed project. Mitigation is not warranted.

Parks and Open Space

There are no identified significant environmental impacts associated with parks and recreational facilities.

Schools

There are no identified significant environmental impacts associated with school facilities.

Population and Housing

The population increase is not considered a significant environmental impact because it is part of the planned development of the city. There is no significant environmental impact and there is no mitigation warranted.

Archaeological Resources

There are no known impacts relating to the proposed project. However, as required by the CEQA Guidelines, Appendix K, if cultural resources are discovered during project-related activities, all work is to cease in the vicinity of the find and the lead agency and a qualified archaeologist are to be contacted regarding evaluation of the discovery. If Native American remains are found, the County Coroner and the Native American Heritage Commission in Sacramento are to be notified for recommended procedures.

Energy

It is not projected that the proposed project will result in a significant impact to energy resources.

Cumulative Impacts

The following discussion identifies the major environmental impacts that may result from the development of the aforementioned cumulative projects.

Agricultural Resources

Farmland conversion and the loss of thousands of acres of prime farmlands throughout the region is considered to be a significant unavoidable cumulative adverse impact. This loss could be offset to some extent through greater urban densities. Higher density development requires less land area per residential unit and could slow down agricultural land conversion. Furthermore, other benefits of higher density include potentially fewer air pollution emissions from vehicles because mass transit would be more available. To attenuate the impact to the greatest extent possible, all jurisdictions need to implement the Stanislaus County Agricultural Element (1992).

Traffic and Circulation

The cumulative traffic generated by proposed projects in the City of Riverbank and the region are based on traffic projections obtained from the Countywide Traffic Model developed for SAAG. These projections are representative of the year 2015 traffic conditions. In the vicinity of the plan area, the 2015 roadway network developed for the SAAG regional traffic model assumes widening of all or portions of major roadways in the area to four lanes. This is consistent with the Riverbank General Plan and Stanislaus County's General Plan. Collector roadways such as Morrill Road and Crawford Road are still anticipated to consist of two travel lanes as they currently exist.

Background land use assumptions in the vicinity of the plan area were taken from the year 2015 SAAG Model Land Use Listing. Land use assumptions contained in the traffic model for the plan area consist largely of agricultural uses. For the cumulative base analysis (i.e. without development of the site as proposed), no development has been assumed for the site in order to specifically isolate impacts associated with development.

Reasonably foreseeable improvements to regional transportation facilities have been identified through the Stanislaus County Public Facilities Fee Program, the Stanislaus Area Association of Governments 1993 Regional Transportation Plan and the Stanislaus County Regional Expressway Study.

Cumulative Levels of Service - Without Project.

Roadways. The cumulative scenario analysis assumes that four lanes exist on area roads (except Morrill Road) by the year 2015. In this scenario, all roadways will operate at an acceptable LOS, except for the segment of Claribel Road and the short sections of Oakdale Road and Coffee Road in the vicinity of their intersections with Sylvan Road. Mitigation for this conditions would be to widen Claribel Road needs to be widened to 6. In lieu of widening lanes with "conventional" intersection

geometrics, Claribel Road may be constructed as a 4 lane expressway with urban interchanges located at its major intersections.

Intersections. With the intersection geometrics assumed for the cumulative base condition to reflect current planning documents, many of the intersections operate unsatisfactorily. However, with intersection configurations that can reduce the LOS, the acceptable operations at all of the signalized intersections can be improved to an acceptable level.

Cumulative Levels of Service - With Project The land use network was modified to accurately depict the proposed roadway system in the vicinity of the plan area. The land use file was updated to include trips expected to be generated by the project. The 2015 model was then rerun to yield traffic volumes on area roadways and intersections under the Cumulative Plus Project condition.

All of the signalized intersection locations are projected to operate at an unsatisfactory level, except for Claus Road/Claribel Road intersection which deteriorates from LOS C/D in the morning to LOS E and from LOS B in the evening to LOS C. The Claus Road/Santa Fe Avenue intersection degrades from LOS C/D in the morning to LOS D and the Roselle Avenue/Patterson Road intersection degrades from LOS C to LOS D during the A.M. peak hour. However, no change in operating LOS is project during the P.M. peak hour at these locations.

The Claus Road/Route 108, Claus Road/Patterson Road, Oakdale Road/Morrill Road and the Coffee Road/Patterson Road intersection are still projected to operate acceptably at LOS C or better during both peak periods. However, there is an LOS change projected for Claus Road/Claribel Road, Claus Road/Santa Fe Road and Roselle Road/Patterson Road intersections.

Development of the proposed plan area will warrant signalization of the Roselle Avenue/Morrill Road and Roselle Avenue/Crawford Road unsignalized intersections during the P.M. peak hour, and will warrant signalization of the Oakdale Road/Crawford Road intersection during the A.M. peak hour.

Project access onto Morrill Road are projected to operate satisfactorily with build-out of the site. It was assumed that the single-family residences located to the north of Morrill Road would access the adjacent street system via the fourth leg of each of these intersections to the north. LOS A operations will result.

The project north access to Oakdale Road is expected to operate at LOS F and E during the A.M. and P.M. peak hours, respectively. While delays experienced by motorists are long, warrants for signalization at this location are not met under this condition.

The Oakdale Road/south project access and the project access for the highway commercial portion of the site onto Roselle Avenue intersections both operate at LOS F during one or both peak periods. Due to the large exiting volumes from the plan area, roadway approaches to these locations should provide sufficient width to accommodate separate left- and right-turn lanes out of the site and should be stop

controlled. Signalization is warranted at both of these locations with build-out of the plan area.

As under the Existing Plus Project condition, the Patterson Road/Roselle Avenue, and the Morrill Road/Roselle Avenue intersection meet the criteria for left-turn channelization.

With build-out of the plan area, the newly created intersections of Crawford Road/Roselle Avenue, Oakdale Road/south project access and the Roselle Avenue/highway commercial access intersections also meet this criteria. However, all these intersections also meet peak hour warrants for signalization, and therefore left turn channelization would be implemented in conjunction with signalization.

The following four mitigations shall be paid for through proportionally-levied fees collected at the time building permits are obtained from the city. *These mitigations shall be implemented when traffic volumes warrant them.*

Mitigation

32. Patterson Road/Roselle Avenue. With the addition of project generated trips, an additional eastbound and westbound left-turn lane will be needed to provide a satisfactory LOS.
33. Claribel Road/Roselle Avenue. An additional northbound and southbound through lane will need to be carried through the intersection to provide a satisfactory LOS.
34. Sylvan Road/Oakdale Road. An additional eastbound and westbound through lane will need to be carried through the intersection to provide a satisfactory LOS.
35. Project Access Intersections. Traffic signals will eventually become necessary at the Crawford Road intersections and at the access locations to the regional commercial/business park and highway commercial uses. In addition, signalization will be needed at the Roselle Avenue/Morrill Avenue intersection. The Crossroads developers shall be responsible for installing these traffic signals in the future when warrants are met.

Air Quality

Continuing growth, as well as weather conditions in the San Joaquin Valley have caused the Valley to be in "nonattainment" for ozone and PM₁₀ emissions. Cumulative air quality impacts resulting from pending and/or proposed development projects will generate additional regional emissions indirectly through auto use and compound the existing nonattainment conditions. This growth, when combined with existing and/or planned growth, will have a short-term cumulative, significant, unavoidable impact on air quality. This condition is currently being addressed by the APCD (a "responsible agency") through implementation of the APCD's *PM₁₀ Nonattainment Area Plan*, the federal *1992 Air Quality Attainment Plan for Carbon*

Monoxide, the 1991 Air Quality Attainment Plan, and the November 1994 Ozone Attainment Demonstration Plan.

Based on the *Ozone Attainment Demonstration Plan*, the APCD will be in attainment with federal EPA standards by 1999. As stated in the *Ozone Attainment Demonstration Plan*, almost all of the San Joaquin Valley will reach attainment by implementation of rules which the APCD has already adopted from the 1991 Air Quality Attainment Plan and the federal *Rate of Progress Plan*. Small areas in Fresno and Kern counties are projected to remain in exceedance of the federal standard without additional reductions in both the local and transport situations. In addition, the APCD *1994 Serious Area PM10 Plan* calls for conformance with the Federal Clean Air Act Amendments (FCAA) by December 31, 2001.

However, attainment with the California Clean Air Act is not determined per the APCD's 1991 *Air Quality Attainment Plan*, though there is the requirement that the APCD achieve a five percent per year reduction for each air pollutant or precursor for which the APCD has been designated with nonattainment status, until attainment is achieved. Even if attainment were to be achieved, there is data that indicates air quality will worsen because of a growing population.

Noise

Additional urban development will increase the ambient noise levels. However, because construction incorporates noise attenuation features and land use is premised on not locating noise sensitive receptors too close to noise sources, this is not considered to be a significant cumulative issue.

Biological Resources

Continued urban development, especially in or near the areas where sensitive habitat occurs, will deplete biological diversity in the region and continue in the slow extirpation of "listed" plant and animal species (e.g. Swainson's hawk) through loss of nesting and foraging habitat. This is considered to be a significant environmental impact. Cumulative impacts as they pertain to listed species can only be mitigated through preservation of listed species habitat in perpetuity. Addressing the cumulative impacts to all threatened, endangered and species of special concern requires state-wide and region-wide solutions that are appropriately addressed by state agencies, such as the CDFG and local and regional agencies, such as councils of governments. Participation on the part of professional plant and wildlife biologists, environmentalists, the development community and local governments is paramount for any future endeavor to successfully preserve habitat and prevent extirpation of listed species.

Though not expected to be a significant impact with implementation of prescribed mitigations, wetlands throughout the region are threatened by urbanization and agricultural operations, which either remove or contaminate wetlands with chemicals or silt from erosion. This is a regional issue partially addressed by the NPDES program, greater controls on application of agricultural chemicals in sensitive watershed, wetlands acreage off-sets, and wetlands maintenance and improvements

to reestablish the viability of some wetlands. The cumulative impacts are being addressed by federal and state agencies.

Groundwater

The water level declines that have occurred historically in the study area are largely considered temporary adjustments to changes in pumping locations and amounts (Black and Veatch 1995). Because of perennial sources of recharge on virtually all sides of the basin, a stability in water levels would eventually be expected to occur (i.e., if pumping was constant and pumping location did not change). Once adequate recharge is intercepted by expanding cones of depression, stabilization of the water level will result (ibid.). Intentional recharge could also increase the safe yield of the basin, but this recharge would need to be practiced where the recharged water would not be lost to streamflow, or where shallow groundwater problems would not be created or exacerbated.

Groundwater is a critical component of the water supply within the MID. According to the recent studies completed for the MID, groundwater is projected to be relied on more heavily as supplemental and by some users as a sole source of water supply for both agriculture and urban needs. As this groundwater production increases in the future, overall groundwater recharge is projected to decrease as a result of urban land use displacing agricultural lands. Based on this forecast, the MID has developed a goal which is "to optimize the use of groundwater for agricultural and potable requirements in such a way as to minimize the cost of the overall water supply and to improve the reliability of the water supply for all water users in the MID service area". Elements of the Groundwater Management Plan in support of the goal include continuation of existing and development of new management policies, potential groundwater yield enhancement programs, and the conjunctive use of surface and groundwater (MID 1996).

Groundwater management includes monitoring of groundwater production, storage and quality, administration and monitoring of well construction, and groundwater quality protection. Yield enhancement includes artificial recharge and recovery of contaminated groundwater. The conjunctive use of surface and groundwater is also important. This element is the combined use of surface and groundwater resources in such a way that the combined yield is greater than the yield that would occur from the sum of independent, uncoordinated operations of surface or groundwater resources. Conjunctive water use is commonly associated with storing water in groundwater basins for use during periods of drought or shortage (ibid.).

Implementing the GMP goal stated above requires a set of criteria from which to test the various elements of the GMP. The GMP must:

- Meet supplemental and future water demands;
- Protect or improve the existing groundwater quality;
- Have a minimum cost; and
- Be easy to implement

The groundwater management plan will be an integral part of satisfying the water demands in the MID service area. Since surface water availability is subject to hydrologic variations from year to year, with shortages occurring during dry years, groundwater can be managed to minimize both the peak seasonal demand for surface water supplies and the need for surface water during dry years. Optimizing the MID conjunctive water use capabilities as a key element of groundwater management reveals a need for coordination with facility improvements being addressed in the MID's Irrigation Master Plan. If properly managed, the MGB should provide a reliable supplemental water supply of a suitable quality for all groundwater users (ibid.).

Project Alternatives

Pursuant to section 15126(d) of CEQA Guidelines, an EIR must analyze reasonable alternatives that avoid significant environmental damage. Besides the No-Project alternative that is required to be discussed, the EIR also discusses an Alternative Location. These alternatives and their associated impacts are discussed below.

No-Project Alternative

Under the No-Project alternative, there would be no development of the property. Current land uses (orchard, pasture and scattered housing on large-acre lots) would remain. If this alternative were adopted, potential impacts in the areas of agricultural land conversion, traffic and circulation, water supply, wastewater treatment, air quality, biological resources, noise, etc. would be eliminated.

Infill Development Alternative

This alternative incorporates infill development throughout the city's existing city limits, whereby impacts to prime agricultural land are postponed by developing residential and commercially zoned properties within the city prior to relying on property in the city's periphery. However, because there are few infill opportunities for development under existing general plan land use and zoning designations, growth within the city will eventually impact surrounding prime agricultural land.

Based on a review of existing vacant lots within the city that are currently designated for residential use, an additional 490 residential units could be constructed (Palazzo 1996). Within the current city boundary there are 461 lots that have been approved for residential units. These are not counted in the 490 potential future units. Within the existing Sphere of Influence there are an additional 2,077 units (ibid.).

Through infill development within the current city limits, the city could, in the short-term, postpone the conversion of agricultural land. Infill development could address some of the city's future residential and commercial needs, but would not provide as many residential units or the commercial/industrial opportunities proposed in the Crossroads Community project, nor would this infill development approach eliminate conversion of prime agricultural land.

In this alternative, it is important to note that the time frame of conversion of prime agricultural land following full build-out of the city is dependent on the pace of infill. This alternative cannot be considered the environmentally superior alternative because infill, though it can postpone some conversion of prime agricultural land, will not eliminate conversion of prime agricultural land.

In regards to the significant adverse air quality impacts identified in this EIR, infill development may increase the emissions of ROG, NOx and PM10 relative to the emissions associated with the proposed project. Emissions are predicated on the distance between employment, commercial/service land uses, and the relative location of residences to such employment and commercial/service land uses. Therefore, because infill in the city would represent scattered development and may result in greater driving distances to commercial and service needs of residents relative to the proposed project, which provides a central commercial district (most residences are within one-quarter mile of the proposed central commercial district) in order to, among other reasons, reduce vehicle miles traveled by future residents and reduce vehicle emissions, this alternative is expected to have slightly greater emissions.

Alternative Site

This alternative considers an approximately 320 acre area within the sphere of influence of the city, which is bounded by Kentucky and Eleanor Avenues, Claus Road, State Route 108, and Mesa Drive. The area is illustrated in Figure 13. This area is currently designated low density residential and currently supports scattered livestock grazing. The county has designated the area in the sphere of influence as urban transition. As in the infill alternative discussed above, the proposed project's basic objective of providing a central place of focus for the community could not be feasibly attained using this area of the city. In addition, as in the case of the proposed project, development of this site would result in an unavoidable significant adverse impact regarding conversion of prime agricultural land, although the amount of agricultural land lost associated with this alternative site would be less.

The proposed project's basic objectives as defined in the EIR could not be feasibly attained using this area of the city. For example, the central business district concept located within one-quarter mile of most residents associated with the proposed project could not be sustained in this alternative scenario, because of the shape of this alternative site.

As for the impact relative to agricultural land conversion associated with the proposed project, which was determined to be a significant impact in this EIR, this alternative would also have an unavoidable significant adverse impact regarding agricultural land conversion.

This alternative is not considered to be environmentally superior because it would not reduce significant adverse impacts as they relate to agricultural land conversion and air quality. Growth inducing impacts could also occur if new oversized sewer trunk lines were required.

Down-Sized Alternative

This alternative reflects the proposed project's potential impacts to the air basin, which are determined to be significant and unavoidable. Based on Table 18 of the EIR, the proposed project would exceed the Reactive Organic Gases (ROG) threshold of significance (55 lbs./day) by a factor of nine. By using the Urbemis 5 air quality model (the worst case scenario was inputted whereby temperatures are 40 degrees and represent winter conditions), it can be determined what the potential number of units could be developed on the site without exceeding the threshold of 55 lbs./day. Based on the Urbemis run, approximately 400 single-family dwelling units and 120 high-density multi-family units could be constructed without exceeding the threshold. Or, approximately 200 single-family units, 75 high-density residential units and 75,000 square feet of commercial space could be developed without exceeding the threshold. There are a number of combinations that exist that would result in ROG emissions being less than the threshold. In this scenario development would be concentrated closest to the city such as the north half of the plan area.

However, this alternative does not accommodate planned growth of the city in a comprehensive manner and could instead piece-meal development, whereby the equivalent of the remaining residential units and square footage of commercial space associated with the proposed project could theoretically be developed in an incremental fashion elsewhere in the city or region. In the incremental development scenario, the impacts relative to the air basin are expected to be higher because it is not expected that land use planning design concepts that reduce emissions would be implemented on smaller scale incremental projects.

This down-sized alternative would eliminate the beneficial elements of the Crossroad Community Design Concepts, which are premised on a neo-traditional planning techniques discussed previously in the Air Quality section. As in the Infill Alternative discussed above, the proposed project's basic objectives as defined in the EIR could not be feasibly attained. This alternative is not considered to be environmentally superior.

Environmentally Superior Alternative

CEQA (Section 15126.d.2.) states that an environmentally superior alternative must be selected. Based on the evidence submitted in this EIR, the environmentally superior alternative is the No Project alternative because it would eliminate the potentially significant impacts associated with agricultural land conversion and with emissions associated with vehicle trips. However, Section 15126.d.2 also states that if the environmentally superior alternative selected is the No Project alternative, then another environmentally superior alternative must be selected among the alternatives.

Based on the analysis in this EIR, an alternative location within the city or within its sphere may not provide any measure of improvement relative to the significant adverse environmental impacts associated with the loss of agricultural land and air quality impacts. Therefore, the proposed project, as mitigated in this EIR, is selected as the other environmentally superior alternative, because it addresses the air

quality issue to the best extent possible through the provision in the *Crossroads Community Specific Plan* for a neighborhood/community commercial zone that is centrally located and within one-quarter mile of most residents and on-site employment opportunities, which can reduce vehicle trips. The loss of agricultural land remains a significant issue relative to the proposed project as well as any alternative project. The city will be required to make a "statement of overriding consideration" with associated findings and evidence if the city determines to approve the proposed project.

1.0 Introduction

1.1 Background

On October 25, 1989, the Stanislaus County Local Agency Formation Commission (LAFCo) approved a request by the City of Riverbank (hereinafter "city") to include approximately 633 acres of land, known as Riverbank Village, in the city's Secondary Sphere of Influence. The Riverbank Village has subsequently been renamed the Crossroads Community. The approval of this request was granted by LAFCo on the grounds that the plan area is contiguous with the existing city boundaries and upon the city's commitment to a program of overall traffic, fiscal, and infrastructure studies, as well as the completion of an environmental analysis for the project area.

Pursuant to LAFCo approval, the city conducted an overall analysis of the Crossroads Community. Using the *City of Riverbank General Plan* (hereinafter "general plan") as a foundation, the planning process utilized analysis of the site's existing resources, opportunities and constraints, to include an evaluation of parks, open space, and public facility needs as building blocks for the design and layout of the community. Traffic and infrastructure technical studies were also necessary to form the basis of design and layout of the community. As part of this analysis, the following technical studies were completed:

- *Traffic Circulation/Impact Analysis* (TJKM Transportation Consultants 1991)
- *Infrastructure Study* (Thompson-Hysell Inc. 1991)
- *Facilities and Infrastructure Financing Program* (Recht Hausrath and Associates 1991)
- *Parks Needs Analysis* (EMC Planning Group Inc. 1991)
- *Municipal Space Needs Analysis* (EMC Planning Group Inc. 1991)

These reports were compiled into a technical appendices package (1991), which is incorporated herein by reference, and can be reviewed at Riverbank City Hall, 6707 Third Street.

These reports were used to prepare a preferred land use design and draft specific plan (August 1991). The draft specific plan was designed to provide the city with a comprehensive planning tool for the 633-acre plan area.

Upon completion of the draft specific plan, the city prepared an initial study (1991). Based on this environmental evaluation, the city determined that the proposed project (*Crossroads Community Specific Plan*) could have a significant effect on the environment and that an environmental impact report (EIR) should be prepared. Based upon the decision to prepare an EIR, the city distributed a Notice of Preparation (NOP) in August 1991.

The city held a public workshop in September 1991, at Riverbank City Hall. The purpose of this workshop was to consult directly with any person or organization concerned with the environmental effects of the proposed project.

Although the city had previously determined an EIR was needed, the city retained the services of a planning firm to prepare another initial study on the draft specific plan. The basis for this new initial study was to address comments received on the 1991 NOP. Through preparation of the second initial study, the city confirmed that the proposed project could have a significant effect on the environment and that an EIR should be prepared. The 1993 initial study is contained in Appendix A of this EIR. Based upon the decision to prepare an EIR, the city distributed another NOP in April 1993. The 1991 initial study and the 1991 and 1993 NOP and responses are available at the City of Riverbank Planning Department.

In February 1994, the city authorized preparation of the specific plan, requested and updated a Plan for Services, and directed some changes to the preferred land use design. Some of the changes included the placement of approximately 54 acres of land, located north of Morrill Road and south of the Modesto Irrigation District (MID) Canal, into the plan area. The inclusion of this property was necessary to avoid creating an island of unincorporated land. As a result, the size of the plan area increased to approximately 687 acres. This process led to the refinement of a preferred land use alternative, the formation of the Crossroads Community, and the preparation of goals, objectives, policies, and implementation measures for the future development of the plan area.

The *Crossroads Community Specific Plan* will be incorporated by reference into the city's general plan thereby ensuring the proper and systematic implementation of the general plan. Further, the implementation of the proposed project will require modification of the city's zoning ordinance, and commitments to public and private improvements. Finally, all development plans prepared for the plan area must be consistent with the goals, objectives, policies, and implementation measures contained within the specific plan.

In addition, since the city is requesting that LAFCo approve the inclusion of the Crossroads Community within the city's Primary Sphere of Influence as well annexation to the city, a plan for services has been prepared. This plan for services incorporates the aforementioned technical information obtained in 1991 with updated information, as necessary or appropriate, to ensure the city's capability to provide public services and facilities to the plan area. The purpose of this plan for services is to demonstrate to LAFCo that adequate services will be available to accommodate the proposed development. Further, it serves as a basis for formulating a plan for the phasing of development within the Crossroads Community. The plan for services is incorporated herein by reference and is available at the City of Riverbank Planning Department.

If the subsequent project will cause additional significant effects, a subsequent EIR or mitigated negative declaration must be prepared. The subsequent environmental document will need to focus only on the new impacts. As an efficiency measure, CEQA would allow subsequent environmental documents to tier with the original program EIR and incorporate parts of the original EIR by reference. The notice requirements for the subsequent environmental document(s) are the same as those for a standard environmental document.

1.3 Project Location

The proposed project is located in the unincorporated portion of Stanislaus County, just outside the city limits. The city is located north and northeast of the City of Modesto on a bluff overlooking the Stanislaus River, which flows approximately one mile to the north of the plan area. Historically, the city has been an important agricultural producer, and agricultural activities continue to comprise the majority of the city's economic base. Major regional recreation centers such as the Don Pedro Reservoir, Yosemite National Park, and the ski resorts of the Sierra Nevada mountains are relatively close to the city. Figure 1 illustrates the regional location of the city and the proposed project.

The 687-acre plan area is located to the southwest of the city and is bordered on the north and east by the Modesto Irrigation District (MID) main irrigation canal, to the south by Claribel Road, and to the west by Oakdale Road. Morrill Road bisects the plan area in the northern area. Roselle Avenue bisects the site in the eastern area. The proposed project is located within the city's secondary sphere of influence. The plan area vicinity is illustrated in Figure 2.

1.4 Description of Existing Plan Area

Topographically, the plan area is extremely flat, varying only five feet from the highest point at 125 feet above sea level, to the lowest point at 120 feet above sea level. It is bisected by two water easement canals: a 110-foot wide Hetch-Hetchy Water and Power easement, owned and operated by the City and County of San Francisco, and the MID Lateral #6 irrigation canal easement, which varies in width from 100-feet to 130-feet.

The Hetch-Hetchy easement enters the plan area on the southern portion of Roselle Avenue and runs southwest toward Claribel Road. The second canal enters the plan area just south of the Hetch-Hetchy parcel on Roselle Avenue, bends southward to Claribel Road, travels to the north and then west, exiting the plan area on Oakdale Road. The MID also owns two separate parcels of land, each bordering the MID Lateral #6 irrigation canal to the north, situated on either side of Roselle Avenue. The MID operates a maintenance facility at this location.

The climate in the area is characterized by hot, dry summers with an average temperature of 78 degrees Fahrenheit and mild winters with an average temperature of

1.2 Authorization and Purpose

The city, acting as lead agency, has determined an EIR is required to evaluate the potential environmental effects of the proposed project described below.

This EIR has been prepared by EMC Planning Group Inc. (hereinafter "consultant") under contract to the city. The consultant has prepared this EIR using information available from private and governmental agencies noted herein; as well as information generated through investigation and field analysis of the plan area.

This EIR has been prepared in compliance with the California Environmental Quality Act (CEQA) of 1970, as amended, to inform public decision-makers and their constituents of the environmental effects of the proposed project. As stated in section 15121 of the CEQA guidelines:

An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize significant effects, and describe reasonable alternatives to the project.

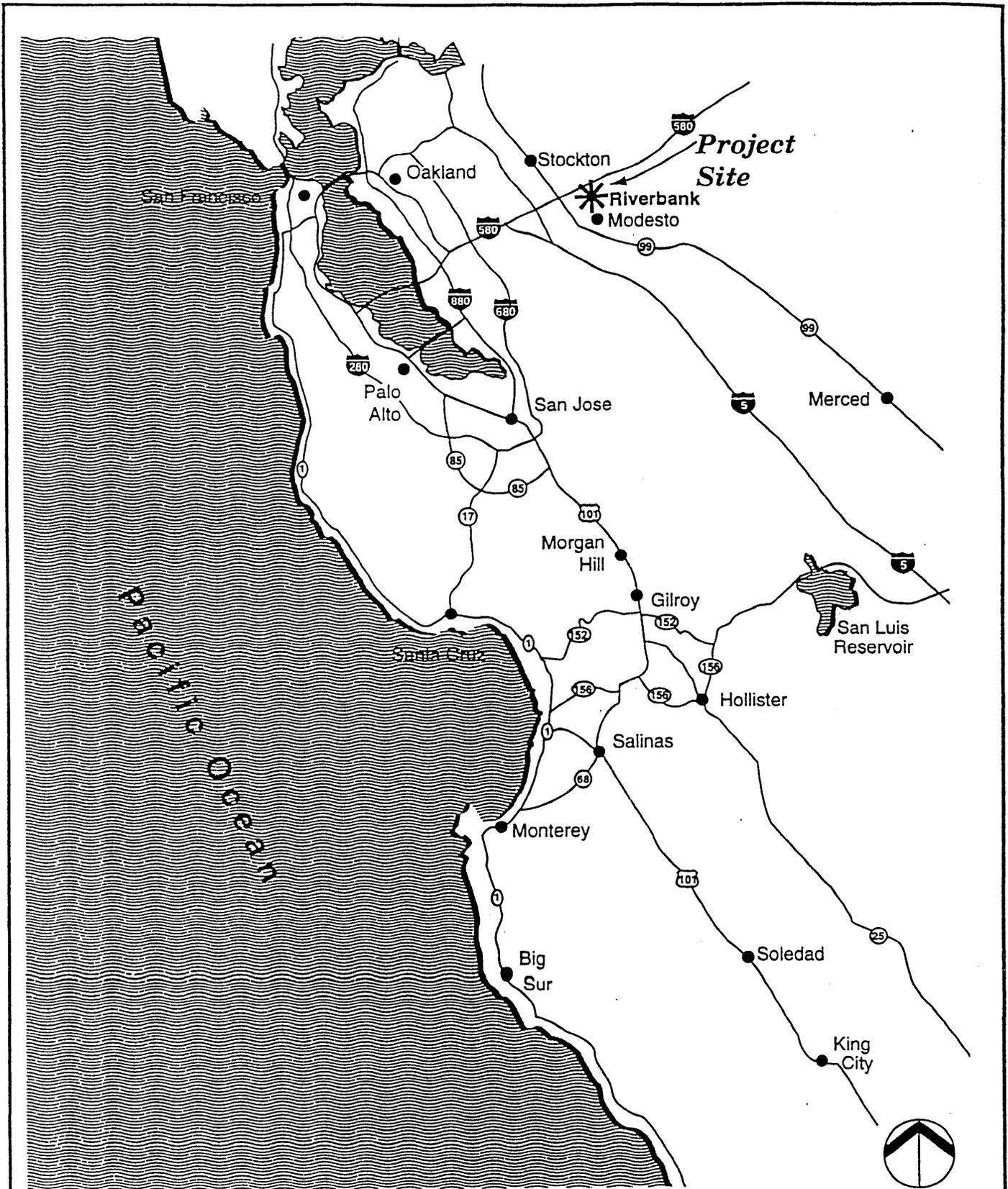
As previously mentioned, implementation of the proposed project is expected to adversely affect both the urban and natural environment. Based on this premise, particular attention is given in this EIR to issues relating to geology, soils, hydrology, biological resources, traffic and circulation, air quality, land use compatibility, visual quality, noise, public facilities and services, population and housing, archaeological resources, and energy.

In the context of each of these identified issues, this EIR describes and evaluates the existing environmental setting of the plan area and surrounding areas, discusses the nature of the proposed project, identifies environmental impacts associated with the proposed project, and recommends feasible mitigation measures that can be implemented to reduce or avoid identified environmental impacts. Where a mitigation measure is not feasible, a statement regarding this finding is made.

Although the main focus of environmental review is generally on the potential significant adverse environmental effects of a proposed project, this document also discusses any beneficial effects of the proposed project on the environment.

This EIR is a program EIR (CEQA Guidelines, Section 15158) prepared for a series of related actions that are characterized as one large project or program. In other words, future residential, commercial, public and quasi-public developments that will occur constitute "related actions" (i.e., they are planned in this Specific Plan) and constitute "one large project" (i.e., the Crossroads Community).

As subsequent projects occur in accordance with the specific plan, they must be examined to determine whether they will result in effects not examined in this program EIR. If no additional effects can be identified or no new mitigation measures are needed, no new environmental document is necessary.



Source: California State Automobile Association and EMC Planning Group Inc.

No Scale

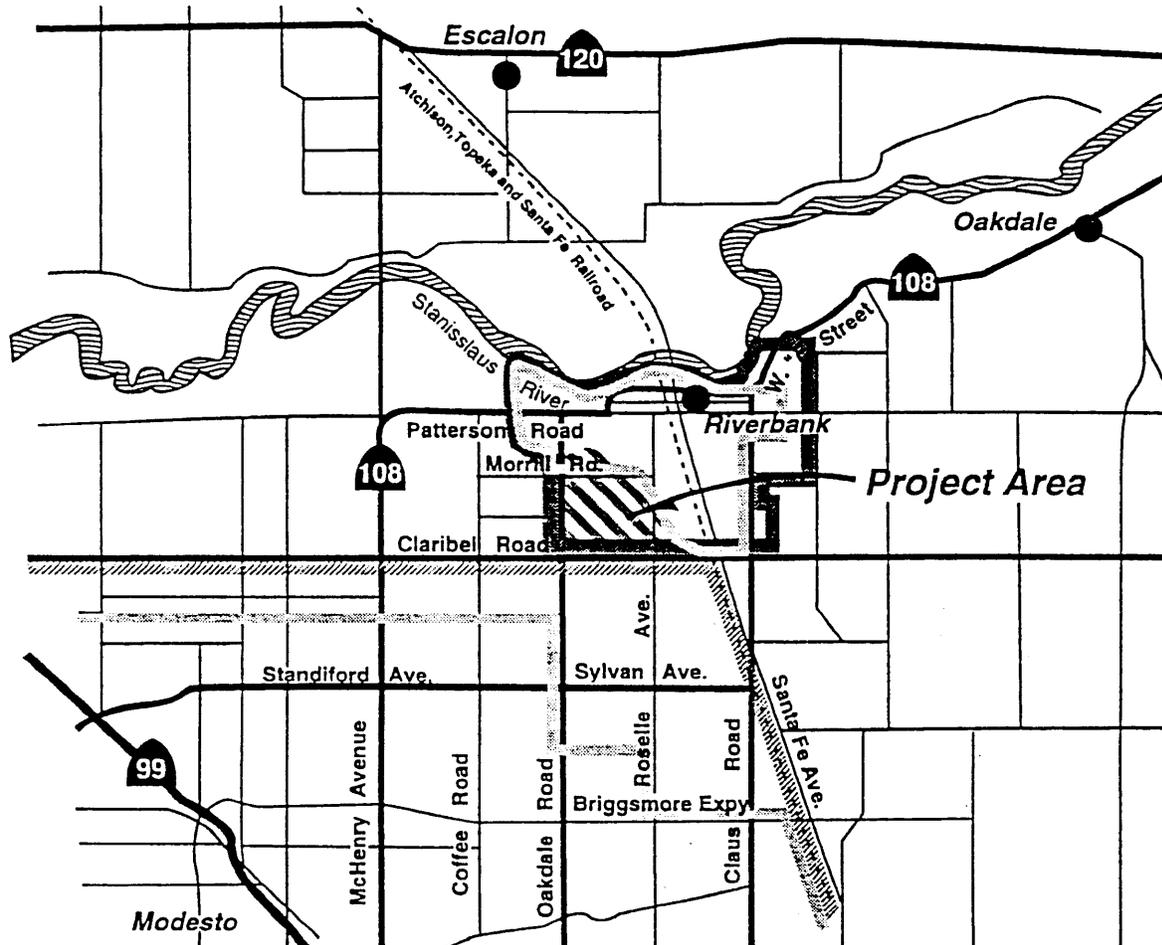


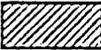
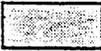
A Land Use Planning and Design Firm

City of Riverbank
 Crossroads Community Specific Plan EIR
Regional Location

Figure
1

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-  Delineates Modesto's Sphere of Influence
-  Riverbank's Sphere of Influence Boundary
-  Existing Modesto & Riverbank City Boundaries
-  Project Area



A Land Use Planning and Design Firm

City of Riverbank
 Crossroads Community Specific Plan EIR
Project Vicinity

Figure
2

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48 degrees Fahrenheit. The average rainfall is approximately 9.25 inches per year on the San Joaquin Valley floor.

There are 52 separate parcels of land totaling approximately 687 acres. Figure 3 illustrates the acreage associated with the existing parcels of land within the plan area.

The city general plan designates the plan area as Residential Reserve and identifies the plan area as the Crossroads Neighborhood.

The existing land uses within the 687-acre plan area are devoted to agriculture. As illustrated in Figure 4, the dominant agricultural use is pasture land, with orchards serving a secondary role. The remaining land uses within the plan area consist of single family residences. There are approximately 27 single-family dwellings located within the plan area south of Morrill Road and approximately 91 single-family dwellings north of Morrill Road in the Stonebridge Subdivision, which has previously been annexed to the City of Riverbank.

1.4.1 Description of Surrounding Land Uses

The city is located two miles northeast of the City of Modesto and four miles west of the City of Oakdale. There are approximately 1,650 acres and 13,350 residents within the city's current boundaries. The 687-acre plan area is located southwest of the existing city boundary.

Northeast of the plan area, across the MID main irrigation canal, lies an existing mobile home park and the California Blossom Subdivision. To the southeast, the plan area is bordered by ranchettes, which are single-family residences situated on large-acre parcels.

Across Oakdale Road, to the west of the plan area, lies open farmland which is designated by the city as residential reserve. This land is currently situated within Stanislaus County and supports row crops and orchards.

The City of Modesto Sphere of Influence borders the plan area to the south, across Claribel Road. This land is currently designated as an urban transition zone and consists of agricultural uses. This sphere is shown in Figure 2.

1.5 Project Description

The proposed project is the Crossroads Specific Plan. As a component of a general plan, a specific plan provides comprehensive guidelines for areas located within, or to be placed within, a city's sphere of influence, offering more specific information than is available in a general plan. California Government Code section 65451 et. seq. requires that a specific plan contain the following:

- (a) A text and diagram or diagrams which specify all of the following detail:

- (1) The distribution, location and extent of the uses of land, including open space, within the area covered by the plan.
- (2) The proposed distribution, location and extent and intensity of major components of public and private transportation, sewerage, water, drainage, solid waste disposal, energy and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan.
- (3) Standards and criteria by which development will proceed and standards for the conservation, development and utilization of land resources, where applicable.
- (4) A program of implementation measures including regulations, programs, public works projects and financing measures necessary to carry out paragraphs 1, 2 and 3 above.

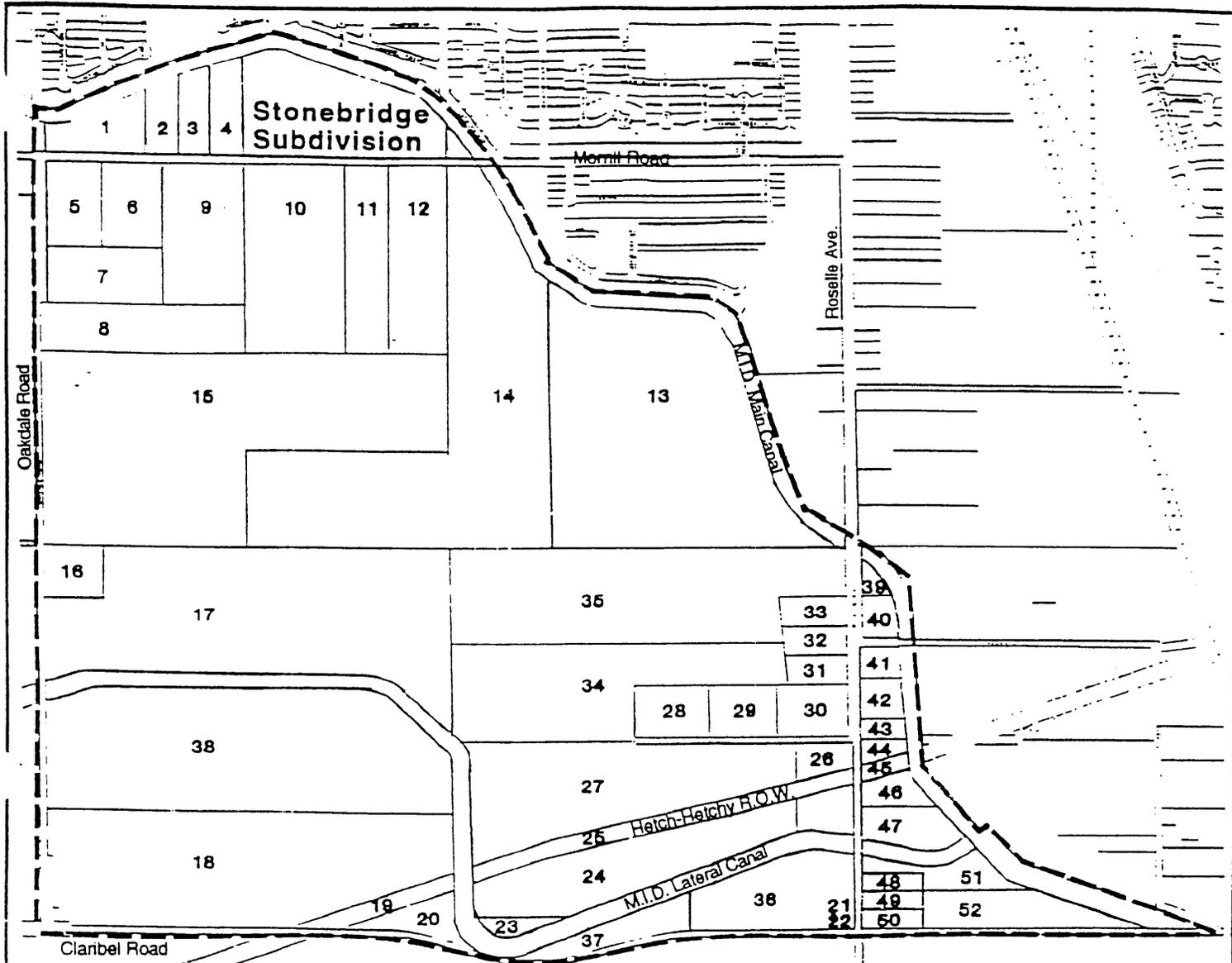
(b) A statement of the relationship of the specific plan to the general plan.

The *Crossroads Community Specific Plan* provides an opportunity to comprehensively design and plan the southern edge of the city. It also allows the city a means to evaluate the implications of expanding the city's boundaries, and at the same time, provide a forum for community input.

The following discussion summarizes the characteristics of the specific plan. More specific details of the specific plan can be obtained by reading the specific plan in its entirety. The design concept of the Crossroads Community utilizes the following neo-traditional/sustainable community concepts:

- A hierarchy of streets which are interconnected and radiate throughout the community, reinforce the center of the community, and link to the surrounding city;
- A "village center" with mixed uses to encourage a lively and active focal point for the entire neighborhood;
- A pedestrian-oriented circulation system, with a network of walkways, linear parks, and bicycle paths that link the community together;
- A mix of varied land uses to encourage alternative modes of transportation;
- Distinct neighborhoods which are components of the overall community; and
- Urban design policies which encourage a neo-traditional approach to lot layout and site design.

These design concepts are further described in the Specific Plan sections summarized below. However, the entire Crossroads Community Specific Plan makes up the "project description" under the provisions of CEQA and is herein incorporated by reference.



Parcel #	Assessor's #	Acreage	Parcel #	Assessor's #	Acreage
1	075-11-24	4.35 ac	27	075-14-14	26.7 ac
2	075-11-25	2.35 ac	28	075-14-15	3.89 ac
3	075-11-26	2.74 ac	29	075-14-16	3.5 ac
4	075-11-27	3.20 ac	30	075-14-17	3.87 ac
5	075-13-01	4.56 ac	31	075-14-18	1.87 ac
6	075-13-02	4.96 ac	32	075-14-19	1.92 ac
7	075-13-03	6.53 ac	33	075-14-20	2.04 ac
8	075-13-04	19.84 ac	34	075-14-21	23.14 ac
9	075-13-05	11.94 ac	35	075-14-22	37.35 ac
10	075-13-06	19.59 ac	36	075-14-26	11.91 ac
11	075-13-07	8.34 ac	37	075-14-27	3.21 ac
12	075-13-08	11.27 ac	38	075-14-28	47.25 ac
13	075-13-15	52.50 ac	39	075-21-01	.75 ac
14	075-13-16	54.72 ac	40	075-21-02	1.42 ac
15	075-13-17	58.80 ac	41	075-21-20	1.19 ac
16	075-14-01	.34 ac	42	075-21-21	1.7 ac
17	075-14-02	52.00 ac	43	075-21-22	.89 ac
18	075-14-04	43.56 ac	44	075-25-03	.92 ac
19	075-14-05	2.36 ac	45	075-25-04	.89 ac
20	075-14-06	2.20 ac	46	075-54-05	2.02 ac
21	075-14-07	??	47	075-25-06	3.3 ac
22	075-14-08	??	48	075-14-07	.93 ac
23	075-14-09	1.00 ac	49	075-14-08	.93 ac
24	075-14-10	17.65 ac	50	075-25-09	.33 ac
25	075-14-12	5.60 ac	51	075-28-10	3.30 ac
26	075-14-13	5.31 ac	52	075-25-11	7.00 ac

NOTE:
 3.30 ac ?? = Information not available
 7.00 ac ?? = Information not available

Source: M.I.D.

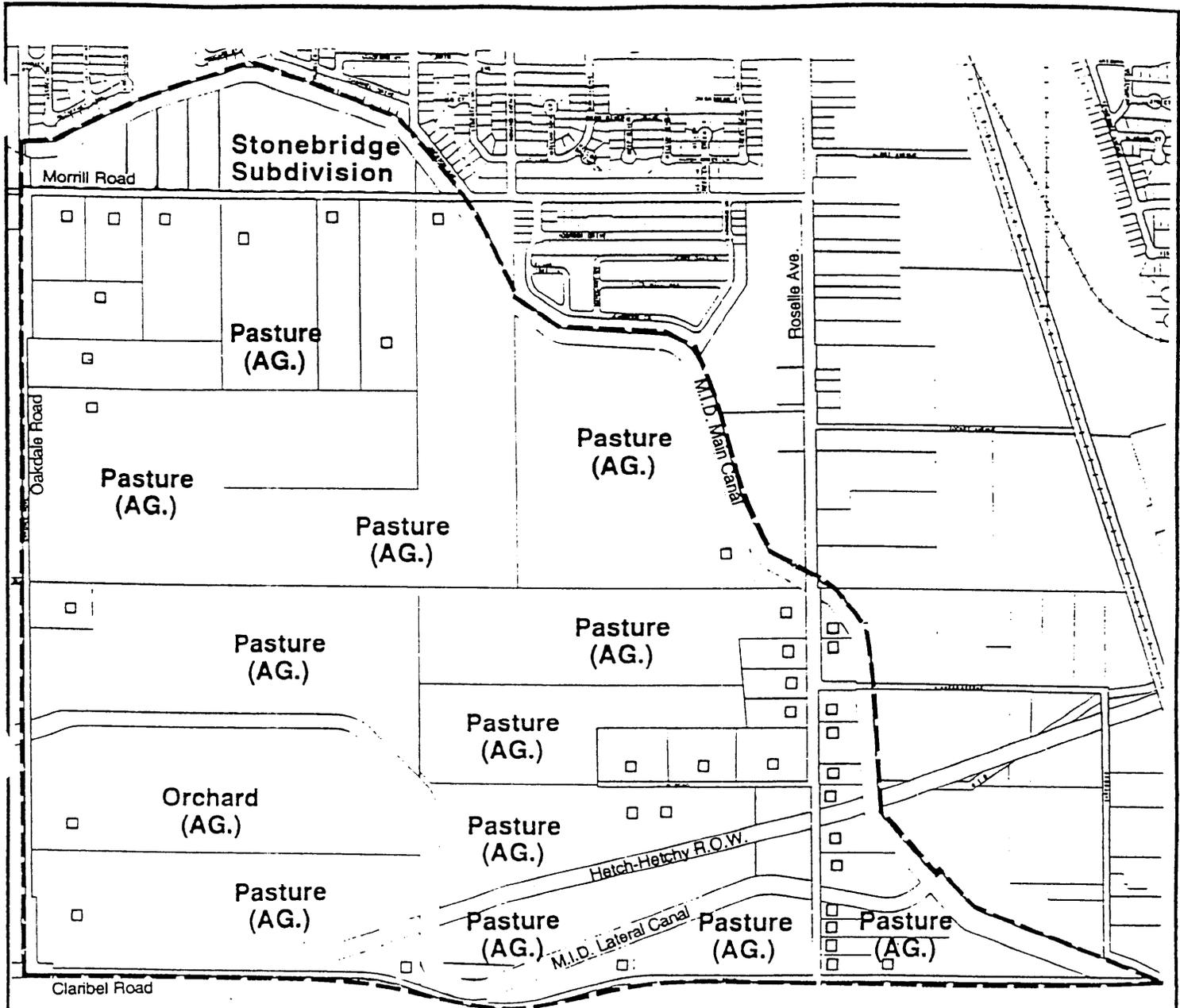


A Land Use Planning
and Design Firm

City of Riverbank
 Crossroads Community Specific Plan EIR
Existing Parcels

Figure
3

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□ - EXISTING STRUCTURES



No Scale

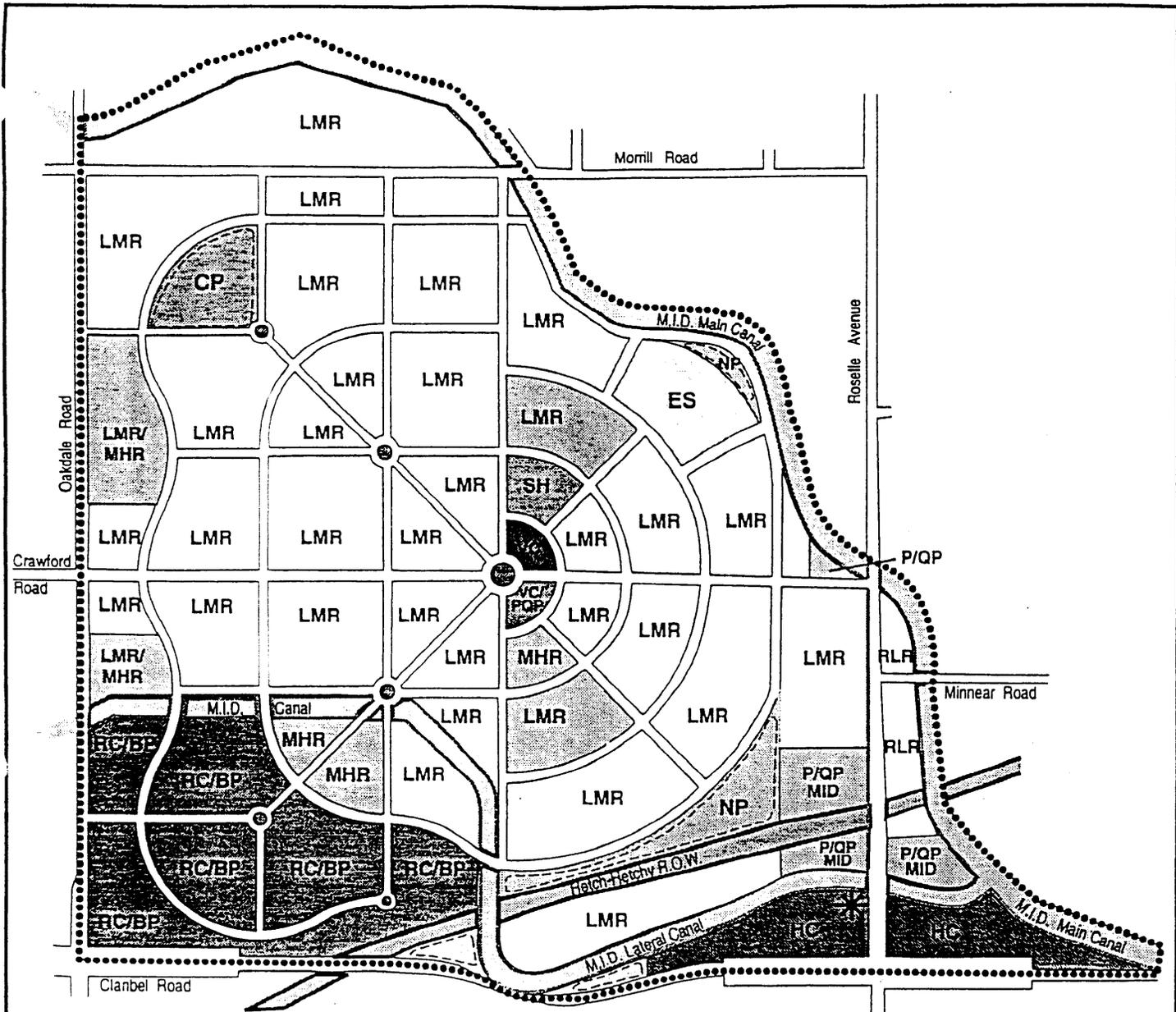


A Land Use Planning and Design Firm

City of Riverbank
 Crossroads Community Specific Plan EIR
Existing Land Use

Figure
4

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- | | | | | | |
|---------|--|--------|--|---------|-----------------------------|
| RLR | Rural to Low Density Residential | VC/POP | Village Commercial/Public Quasi-Public | ES | Elementary School |
| LMR | Low to Medium Density Residential | HC | Highway Commercial | PQP | Public/Quasi-Public |
| LMR/MHR | Dual Designation: Low/Medium/High Density Res. | RC/BP | Regional Commercial/Business Park | POP/MID | Modesto Irrigation District |
| MHR | Medium to High Density Residential | CP | Community Serving Park | | Police/Fire Substation |
| SH | Senior Housing | NP | Neighborhood Park | | Percolation Ponds |
| | Limit of Specific Plan | | Linear Park/Recreation Trail | | |
- 0 250 500 1000

Source: EMC Planning Group Inc.



City of Riverbank
 Crossroads Community Specific Plan EIR
Land Use Concept

Figure
5

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1.5.1 Land Use

The *Crossroads Community Specific Plan* is comprised predominantly of residential neighborhoods that are organized around community facilities, commercial uses and open space. Figure 5 illustrates this land use concept, which is a concentric design, linking the community through a hierarchical and interconnected circulation system which focuses on a "Village Center." The specific plan includes diagonal roadways radiating out from the village center to create a well-defined linkage between the center of the community, the various neighborhoods, and the other major activity generators: the school/park; the community park; and the industrial business park/regional commercial area. A pedestrian-scaled village center is planned at the geographic center of the community. It is envisioned to serve basic shopping needs of the community and to function as a social gathering place, within walking or biking distance to the majority of the neighborhoods. The proposed project also provides a regional and highway commercial area to draw regional shoppers.

Table 1 presents an overview of the land uses planned within the Crossroads Community. This table indicates the amount of acreage designated and displays the percentage of plan area devoted to each land use category within the plan area. The proposed land uses include residential, commercial/industrial, parks, public/quasi-public, and schools. Roads will encompass approximately 147 acres or 21 percent of the total acreage.

Residential

The residential category is the most prevalent land use within the plan area. There are five different residential land use categories planned for the Crossroads Community. Each of these categories is designed to provide a range of lot sizes, housing types, and flexibility to allow for build-out of the planning area based on the city's needs and what the future market will bear; while at the same time providing an overall development framework for plan implementation. These land use categories are designated to be implemented as zoning designations and to be consistent with the general plan. The land use categories are defined as follows:

Rural/Low Density Residential (RLR). This category allows very low density residential uses. The minimum lot size allowed in this land use category is one-half acre, while the average density is 1.25 housing units per gross acre.

Low/Medium Density Residential (LMR). This category allows residential uses ranging from low densities of 2.5 to 9 housing units per gross acre to medium densities ranging from 9 to 12 housing units per gross acre. Housing types include single-family detached housing units. Lot sizes range between 5,000 square feet to 17,000 square feet within the low-density classification and between 3,500 square feet to 5,000 square feet within the medium-density classification. In addition to standard single-family detached housing units, zero lot-line single-family and duplex housing units are allowed in the medium-density portion of this residential category; this includes townhomes with ground floor entries. For purposes of determining the

TABLE 1
Land Use Overview

Land Use		Acreage	Percentage
Residential	Rural Residential	8.5	1.0
	Low/Medium Density	296.0	44.0
	Low/Medium/High Density	19.5	3.0
	Medium/High Density	10.0	1.0
	Senior Residential	4.0	0.6
	Residential Subtotal	338.0	50.0
Parks	Neighborhood Park	11.0	2.0
	Community Park	9.0	1.0
	Linear Park (includes Hetch/Hetchy ROW and the area adjacent to canals)	17.0	3.0
	Parks Subtotal	37.0	6.0
Commercial/ Industrial	Neighborhood (Village/Commercial)	2.0	0.3
	Highway Commercial	20.0	3.0
	Regional Commercial/Bus. Park	67.0	10.0
	Commercial/Industrial Subtotal	89.0	13.0
Public/Quasi-Public	Village Commercial/PQP	2.0	0.3
	MID Canals	47.0	7.0
	MID-Owned Land	17.0	2.0
	PQP Subtotal	66.0	9.0
Roads	Major Periphery Roadways (Morrill Rd., Oakdale Rd., Claribel Rd. and Roselle Ave.)	40.0	6.0
	Major Internal Roadways	107.0	15.0
	Roads Subtotal	147.0	21.0
Schools	Elementary School	10.0	1.0
TOTAL		687.0	100.0

Source: EMC Planning Group Inc.

potential buildout of the plan area, the average density for this land use category is approximated at 7.25 housing units per acre. This is the most predominant residential land use category within the plan area.

Dual Designation: Low/Medium and Medium/High Density Residential (LMR/MHR). The intent of this designation is to allow a maximum flexibility in the determination of residential density. Densities range from 2.5 to 20 housing units per gross acre. Housing types range from single-family detached housing units on lots of 3,500 square feet and above to townhomes or multi-family flat over flat housing units. The amalgamation of various densities is encouraged within this designation to provide a high degree of diversity in the character of the neighborhoods. For purposes of determining the potential build-out of the plan area, the average density for this land use category is approximated at 12 housing units per gross acre.

Medium/High Density Residential (MHR). This category includes residential uses ranging from medium densities of 9 to 12 housing units per gross acre to high densities ranging from 12 to 20 housing units per gross acre. Housing types in this category range include single-family detached housing units, zero lot-line single-family housing units, and townhomes with ground floor entries. Lot sizes range in size from 3,500 to 5,000 square feet in the medium density classification, to multi-family flat over flat housing units in the high density classification. For purposes of determining the potential build-out of the plan area, the average density for this land use category is approximated at 16 housing units per gross acre.

Senior Housing. This category includes apartment/condominium-style housing units specifically for seniors at an average density of 25 housing units per gross acre, with a minimum of 20 housing units per gross acre.

To illustrate the potential residential build-out density of the plan area, a breakdown of each residential category, as proposed in the specific plan, is presented in Table 2. An average density for each residential category is assumed in order to determine the potential residential build-out. Based on this information, a total of approximately 2,036 housing units can be provided within the plan area. The gross acreage for each residential land use category has been converted to net developable acreage to more accurately project population figures. Net developable acreage is determined by factoring out roadway, park, and setback acreage.

Commercial and Industrial Business Park

The second most prevalent land use category within the plan area is commercial/industrial business park. Approximately 90 acres have been set aside for commercial and industrial business park land uses. The types of commercial land uses are as follows:

Village Commercial. Located at the center of the community, the village commercial center is intended for neighborhood-serving commercial uses and is consistent with the Commercial land use designation in the general plan. Approximately three

TABLE 2
Residential Density

Land Use	Gross Acreage	Gross-Net Conversion Factor	Net Acreage	Average Units/Ac.	Total Units	Population /net acre ¹
Rural(RLR)	8.5	0.75	6.4	1.25	8	3.75
Low/Med. Density(LMR)	296.0	0.75	222.0	7.25	1,610	21.75
Low/Medium and Med./High Density(LMR/MHR)	19.5	0.80	16.0	12.00	192	36
Med./High Density(MHR)	10.0	0.85	8.5	16.00	136	48
Senior Housing(SHR)	4.0	0.90	3.6	25.00	90	50
TOTAL	338.0	n/a	256.5	n/a	2,036	

¹ Assumes 3 persons per unit except for senior housing which is 2 persons per unit.

Source: EMC Planning Group Inc.

acres are set aside for services such as a small grocery/market, espresso bar, video shop, al fresco cafe, boutique, bakery, day care facility, dry cleaner, book shop, etc. This land use designation would also allow for professional offices, such as medical and dental offices, and for second floor efficiency apartment or condominium units over commercial. Similarly, this designation is provided in combination with a Public/Quasi-Public designation to support civic uses such as a community center with a small amphitheater, a library, or other civic uses. Second floor offices and/or efficiency apartments or condominiums are also allowed over public/quasi-public uses. The maximum floor area ratio (FAR) for this area is 0.75.

Village Commercial/Public Quasi-Public. Located at the center of the community, this designation is intended to be identical to and expand the Village Commercial designation above, with the exception that public/quasi-public uses are encouraged. In particular, city municipal offices and a community center are preferred.

Highway Commercial. Approximately 20 acres are designated highway commercial, which is considered to be consistent with the Commercial designation in the general plan. The maximum allowable FAR for this area is 0.50.

Regional Commercial/Industrial/Business Park. Approximately 67 acres are dual designated as a regional commercial center and/or industrial business park, with build-out dependent upon the future market. This area is envisioned to be low-level office or retail, highly landscaped with well-defined pedestrian linkages to the community. The maximum allowable FAR for this area is 0.40.

Parks and Open Space

Based on general plan guidelines as well as a park needs analysis of existing and future parks in the plan area, approximately 37 acres of park land and open space are designated in the specific plan. This park land and open space has been allocated as follows:

Community Serving Park. This nine-acre park is located near the corner of Oakdale Road and Morrill Road for proximity to the existing city limits. It is anticipated that this park will support active and passive recreational uses including ball fields, areas for court sports (tennis and basketball), and children's play equipment.

Neighborhood Parks. Two neighborhood parks are proposed within the plan area encompassing a total of 11 acres. One neighborhood park contains approximately eight acres and is located adjacent to the Hetch-Hetchy right-of-way in the southeastern portion of the plan area. The other neighborhood park contains approximately three acres and is located in the northwestern portion of the plan area between the perimeter roadway that abuts the linear park of the MID main canal and the designated elementary school site.

Linear Parks and Recreational Trails. Pedestrian- and bicycle-oriented linear parks are located within the Hetch-Hetchy right-of-way and adjacent to the irrigation canals which flow through the plan area and comprise a total of approximately 17 acres. It is anticipated that these pedestrian- and bicycle-oriented linear parks will become a comprehensive recreational trail system designed to interface and link to the city- and region-wide bicycle/pedestrian trails.

Schools

The majority of the plan area currently falls within the boundaries of the Sylvan Union School District and the Modesto High School District. A small portion of the plan area east of Roselle Avenue is served by the Riverbank Elementary School District and Oakdale Union High School District.

Based on the projected number of housing units to be developed within the plan area, it is estimated that build-out of the Crossroads Community would generate a total of 645 K-5 grade school students, 318 middle school students (6-8 grade), and 376 four-year high school students (9-12 grade).

Based on the projected student population, a new elementary school will be required to serve future residential development within the plan area. A 10-acre site is designated to accommodate this elementary school. The site is located in the northeastern portion of the plan area, adjacent to the three-acre neighborhood park.

Because the projected housing units will not produce the number of students to warrant construction of additional middle or high school facilities within the plan area, it is anticipated that middle and high school students generated from the Crossroads Community will be accommodated in either existing or proposed new school facilities outside the plan area boundaries. Further discussion of the impacts associated with

future residential development within the plan area on the school districts is provided in section 2.0.

Public/Quasi-Public

Other parcels designated as Public/Quasi-Public, in addition to the Village Commercial/Public/Quasi-Public are described above, include existing irrigation canals and two parcels totaling nine acres owned by the MID. These parcels are located on either side of Roselle Avenue in the southeastern portion of the plan area.

Another Public/Quasi-Public designation is proposed as an overlay to a small Low/Medium Density Residential parcel located at the northwest corner of the proposed Roselle Avenue/Crawford Road intersection. The intent of this designation is to allow for a future transit stop, in the event that Roselle Avenue becomes a transit linkage as proposed in the nearby Village One Plan prepared by the City of Modesto.

1.5.2 Circulation

Using the goals, objectives and policies laid out in the land use plan, the circulation element for the *Crossroads Community Specific Plan* provides a definition of the roadway hierarchy proposed for the plan area. The circulation plan for the proposed project establishes a framework for the overall development of appropriately scaled streets, pedestrian linkages, and bicycle paths which help to establish a sense of place within the community and allow for a variety of uses other than those focused on automobile transportation, while allowing for a linkage to external, region-serving roadways.

The circulation system for the proposed project consists of external roadways, which flow along the periphery of the plan area, and link the plan area to the existing City of Riverbank. Within the plan area a series of internal roadways are proposed, which move traffic into and throughout the plan area.

External Circulation System

The external circulation system consists of expressways, arterials, and collectors. The plan area is bounded by four external regional roadways, Claribel Road, Oakdale Road, Morrill Road, and Roselle Avenue. With the exception of Morrill Road, these roadways are designated by the general plan as arterial roadways. Morrill Road is designated by both the general plan and the specific plan as a major external collector. Improvements to these roadways will be required to accommodate the project, as described in section 2.5, Circulation.

Internal Circulation System

The objective for the proposed project's circulation system is to provide vehicular, pedestrian, and bicycle access throughout the community interlinking the major

components of the planned community to one another. The circulation plan is proposed to consist of neighborhood collectors, minor streets and an interconnected recreation trail/bikeway system.

The following is a description of the proposed internal circulation system:

Neighborhood Collectors. The neighborhood collectors are proposed to have a 76-foot right-of-way, with two travel lanes, a landscaped median, sidewalks, no parking, and a Class II bike lane.

The following neighborhood collectors are proposed within the plan area:

- One primary east-west entry collector;
- One secondary east-west entry collector;
- One primary north-south collector;
- Two diagonal collectors; and
- One curvilinear collector.

Minor Streets. The remainder of the roadways within the proposed project are designated as minor streets. These roadways are proposed to have a 54-foot right-of-way, including two travel lanes, on-street parking, a landscaped strip with street tree plantings and detached sidewalks.

Minor streets surrounding the village center include three radial streets with access roadways linking the village center with the school and neighborhood park. Other minor streets within the plan area are proposed to be oriented on an orthogonal grid to provide inter-connectivity and ease of access throughout the neighborhoods.

Recreation Trail/Bikeway System Linear Parks. Class I recreation trails are proposed along the length of the Hetch-Hetchy right-of-way. Twenty foot wide landscape buffers/Class I bikepaths are also located along Oakdale Road and Roselle Avenue. Future uses within the Public/Quasi-Public designated parcels could include transit interchange areas and/or an electrical substation to serve the proposed project.

Traffic Circles. Traffic circles designed to slow and direct traffic and provide visual landmarks within the community are proposed at key intersections. A major traffic circle is located at the village center. Traffic circles are also located at the end of diagonal roads, at the Community Park and Regional Commercial/Business Park.

1.5.3 Public Facilities and Services

The extent and need for public services, facilities and community facilities (i.e., water, sewer, storm drainage, solid waste, schools, parks, police and fire stations) to accommodate future development within the plan area is addressed in the *Crossroads Community Plan for Services* (EMC Planning Group Inc. 1994), the

Riverbank Village Specific Plan Infrastructure Report (Thompson-Hysell Inc. 1991), the *City of Riverbank Wastewater Treatment Plant Master Plan* (Nolte and Associates 1991) and the *Crossroads Community Specific Plan Municipal Space Needs Analysis* (EMC Planning Group Inc. 1991). These reports are incorporated by reference in this EIR. The *Specific Plan Municipal Space Needs Analysis* used the existing space needs assessment, prepared by the City of Riverbank in 1986, to project the municipal space needs of the city hall and the police department. These two reports were used to determine the need for specific facility requirements for the Crossroads Community and are available at city offices.

Sanitary Sewer

To accommodate the build-out of the proposed project, the extension of a major 30-inch trunk line through the plan area to the wastewater treatment plant will be required. Additionally, wastewater collection lines must be installed throughout the plan area; a smaller sized line (approximately 18 to 21 inches) will be sufficient for the collection system to be located within the plan area. However, sewer facilities in each phase of development should be installed as needed, and as more detailed infrastructure plans are developed, details of sewer line sizes and the need for sewer pump stations will require further review by the City Engineer.

Water

Water to the plan area will be provided by new wells interconnected with the city's grid water distribution system. The city public works department has recommended that a water well be planned for each 500 homes. Historically, this has been sufficient to provide domestic supply and fire flow. With 2,036 homes projected for build-out for the plan area, the number of new wells expected to be required to meet the anticipated demand is four or five. The City Engineer expects that five new wells will be required if no large storage facility or other water service is provided.

The city has recommended a 12-inch water grid system for major water lines, occurring at approximately half-mile spacing. The remaining water distribution system pipe sizes will range from 6 to 12 inches. Facilities in each phase must be installed as development occurs, pursuant to city review.

Storm Drainage

To accommodate future development within the plan area, a local collection system, park/detention basins, standard detention basins, and pumping system are recommended by the city to serve the proposed project.

Storm drainage collection is accomplished by a series of detention basins, interconnected with a disposal and outlet system. Detention will be provided in open space land uses, with a portion of the storm drainage volume detained in public parks. Criteria for design of park/detention basins will need to be established. A portion of the detention volume will be detained in otherwise unusable areas such as near intersections with canals and streets. The total detention volume required is approx-

imately 67 acre-feet. This volume is accomplished by having six separate basins interconnected with a centrally located pump station for ultimate disposal to the existing city drainage system and the Stanislaus River.

Schools

The proposed plan area is within the jurisdiction of the Sylvan Union School District (SUSD), the Riverbank Elementary School District (RESA), Oakdale Joint Union High School District (OJUHSD), and the Modesto High School District (MHSD). A full elementary school is required to serve future development within the plan area. One elementary school site of 10 acres is designated in the northeastern portion of the plan area, adjacent to a proposed three-acre neighborhood park.

The school site is situated on a local street, in order to avoid conflicts between cars and children. The school site has been situated to minimize the need for students to be transported to school and to maximize the opportunities for students to walk or ride bicycles. Since the school is a "walker" school, pedestrian and bicycle friendly facilities will be provided on the local street network. The elementary school is located with direct walkable roadway and linear parkway linkages to the surrounding neighborhoods.

Furthermore, the school was sited to separate it from the MID main canal. A buffer, which includes a linear park along the canal, a bicycle path, a local street and its right-of-way, and a small neighborhood park is provided between the canal and the proposed school site.

Parks

Three parks are proposed to be located within the plan area: one nine-acre community park, two neighborhood parks of eight acres and three acres in size and approximately 17 acres of linear park and recreation trails. All of the parks are designed to be linked and accessible to the neighborhoods and the other major activity areas within the community.

Community Park. The community park is proposed to contain at least the following facilities:

- Two tot lots
- One soccer/football field
- Two baseball/softball fields
- One basketball court
- Two tennis courts
- Picnic area
- One multi-use activity area containing shuffleboard, bocci ball, or horseshoes
- 50 parking spaces
- One restroom/maintenance facility

Neighborhood Parks. The three-acre park will be designed in conjunction with the elementary school for enhanced city and school recreational programs and overall

efficient management and use of recreational facilities. The eight-acre neighborhood park is proposed adjacent to the Hetch-Hetchy right-of-way, which is part of the overall linear park system.

Linear Parkways. Approximately 17 acres are planned for linear parkways. The linear parkways are intended to provide an interconnected network of trails to serve both as recreational and transportation alternatives. The linear parks are primarily located adjacent to the irrigation canals and within the Hetch-Hetchy right-of-way. The system will provide a pedestrian/bicycle path and landscaping and will interface with city- and region-wide bicycle trails.

Fire Protection

The Stanislaus County Consolidated Fire Protection District (SCCFPD) provides fire protection service to the City of Riverbank. Fire protection is solely funded by county taxes levied against individual property owners. Development fees are charged to provide additional capital facilities, if warranted.

Police Protection

The Stanislaus County Sheriff's Department is currently contracting with the city to provide police services. The Sheriff's Department is currently funded through fees collected by the city.

1.6 Project Objective

The primary objective of the proposed project is to comprehensively plan for the development of the plan area on the basis of providing more specific information than is possible in a general plan. Specifically, the proposed project will provide the City of Riverbank additional residential housing opportunities along with supporting commercial, industrial, and recreational uses. Through the Specific Plan, the city is attempting to ensure that the plan area will be an attractive, livable community which will maintain its value over time. The intent is to provide the following:

- A central gathering place as a focus of the community;
- Secondary focal activity areas;
- Residential neighborhoods with high-quality housing;
- Well-defined, livable roadway and pedestrian linkages with the central focal area and the secondary activity areas; and
- Open space integrated into the community.

Locating a mix of land uses together in a planned community assists in integrating and balancing the Crossroad Community with the overall City of Riverbank, in an

area appropriate for development because of lesser quality agricultural land and because it is directed in the direction that Modesto's urbanization will occur.

1.7 Consistency with Local and Regional Plans

1.7.1 Local Plans

In accordance with CEQA guidelines section 15125(b), an EIR shall discuss any inconsistencies between the proposed project (*Crossroad Community Specific Plan*) and applicable general plans and regional plans. This section includes a project consistency determination relative to the *Riverbank General Plan*, the *Riverbank Zoning Ordinance*, the *Stanislaus County General Plan*, *LAFCo Policies and Procedures*, the *Stanislaus County Regional Expressway Study*, the *1994 Regional Transportation Plan*, the *Stanislaus County Congestion Management Plan*, the *San Joaquin Valley Unified Air Pollution Control District's Ozone Attainment Demonstration Plan* and the *1994 Serious Area PM10 Plan*.

Riverbank General Plan

The general plan identifies the plan area as the Crossroads Neighborhood, which is one of seven neighborhoods designated Residential Reserve. A land use designation of Residential Reserve requires the preparation of a specific plan for any changes in land use from the original land use designation, and maintains that any changes to a more specific land use designation not be approved except on a neighborhood basis. In general, these new land use designations are required to be consistent with one of the several residential land use designations provided in the general plan. However, some commercial land use designations are allowed in these areas to serve the needs of future residents.

The policies and programs that implement the general plan specify that when specific plans are prepared for one of these seven neighborhood areas prior to annexation, the specific plan shall act as the governing land use and implementation tool for each plan area. Further, if there are inconsistencies between the specific plan and the general plan regarding land use designation categories, locations, or other general items, as long as the specific plan is consistent with specific general plan policies, then the specific plan shall govern future land use within the plan area and a determination shall be made indicating that the specific plan is consistent with the general plan. Following is an analysis of the consistency of the specific plan with applicable general plan policies.

Land Use Element

Policy 4a. Generally, higher density residential uses should be encouraged near the central business district and other commercial development, to meet the needs of those who wish to live close to commercial services and amenities.

Consistency Analysis. The primary design objective of the proposed project is the "village" concept which concentrates higher density around a commercial core, as well as locating most residents within one-quarter mile of the commercial core to reduce vehicle miles traveled and encourage walking and bicycling. Therefore, the proposed project is considered to be **consistent** with this policy.

Policy 4c. The zoning ordinance shall clearly delineate residential, commercial, and industrial zones and generally shall not allow mixing residential uses with commercial and industrial uses.

Consistency Analysis. The proposed project will include some residential in the central commercial area. This mixing of uses will provide low-cost housing and easy access to essential services by local residents, will reduce vehicle trips between residences and essential services and will reduce emissions associated with vehicles. Therefore, the proposed project is considered to be **consistent** with this policy.

Policy 5a. The city will provide, through zoning, a variety of commercial and industrial zoned land to provide adequate choice.

Consistency Analysis. The proposed project includes a variety of commercial, though no industrial zoned land is proposed. Therefore, the proposed project is considered to be **consistent** with this policy.

Policy 5b. To the extent possible, the city will ensure that public facilities are available to commercial and industrial land so that timely development can occur.

Consistency Analysis. The commercial aspects of the proposed project are integral to the proposed residential uses and will require the developer, through project conditions, to provide the necessary public infrastructure simultaneous to and/or prior to development. Therefore, the proposed project is considered to be **consistent** with this policy.

Policy 6a. Public facilities should be extended in a planned, orderly manner.

Consistency Analysis. Refer to the consistency analysis for Policy 5b.

Policy 6c. Growth should occur only as public facilities are available to serve it.

Consistency Analysis. Refer to the consistency analysis for Policy 5b.

Policy 6d. Capital costs of new development, including necessary public facility extensions shall be paid by the developers. Generally, this is accomplished by the payment of storm drainage plan fees, sewer service area plan fees and park in lieu fees, systems development fees, etc.

Consistency Analysis. The *Crossroads Community Specific Plan* and this EIR require these various fees. Therefore, the proposed project is considered to be **consistent** with this policy.

Policy 7d. Future growth should occur at an overall density within the sphere of influence of 4.63 units per gross acre which is consistent with the current development within the city.

Consistency Analysis. When calculating the gross acreage the following proposed land uses are included in the analysis: all residential property; all street servicing the residential property, but excluding Oakdale Road, Morrill Road, Roselle Avenue and Claribel Road, the Hetch-Hetchy R.O.W., public/quasi-public land at the northwest corner of Roselle Avenue and Crawford Road, the village center, and the school site. Based on this parameter, the units per gross acre is approximately 4.5. Therefore, the project is **consistent** with this policy.

Circulation Element

Policy 2. Arterials shall have a level of service of "C" or better at buildout of the general plan boundary.

Consistency Analysis. The proposed project has reduced potential impacts to a LOS C or better through implementation of mitigations prescribed in this EIR. Therefore, the proposed project is considered to be **consistent** with this policy.

Policy 3. Circulation systems shall be designed to promote safety and minimize traffic congestion.

Consistency Analysis. The project was reviewed relative to the eight implementation measures associated with this policy. The project is **consistent** with all measure.

Policy 4. A circulation system shall be developed that includes streets as necessary to provide access to all part of the city base on the anticipated land use. Implementation Measure #2: all streets shall be at least 60-feet wide.

Consistency Analysis. The proposed project includes minor street with widths of 54 feet. An element of the proposed Crossroads Community development will be amendments to the existing general plan's circulation element to accommodate narrower streets. The project is considered **consistent** with the amended general plan.

Open Space Element

Policy A-2. The city will only annex land as needed to provide an adequate but not excessive supply of land for development.

Consistency Analysis. The proposed project is not considered to be an excessive supply of land because the proposed project will be phased over a fifteen to twenty year period, thus allowing new housing to be metered based on demand. Therefore, the proposed project is considered to be **consistent** with this policy.

Policy A-3. Annexation shall be designed to minimize the conflict between urban development and the open, agricultural land.

Consistency Analysis. The proposed project represents an appropriate approach to annexation because it is bound by collector and arterials that will serve as barriers between remaining agricultural land and urban development, and is in an area between Riverbank and the city of Modesto where future urban development is currently planned. Therefore, the proposed project is considered to be **consistent** with this policy.

Policy A-5. Development projects which will result in soil erosion shall not be approved.

Consistency Analysis. The proposed project is subject to the state's Storm Water Pollution Prevention Program (SWPPP) which requires the use of best management practices to control runoff, erosion and sedimentation from the site. Therefore, the proposed project is considered to be **consistent** with this policy.

Noise Element

Policy 2. New development of residential or other noise sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels in outdoor activity areas to 60 dB L_{dn} or less and interior noise levels to 45 dB L_{dn} or less. In areas where it is not possible to reduce exterior noise levels to 60 dB L_{dn} or less using a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 dB L_{dn} will be allowed. Under no circumstances will interior noise levels exceeding 45 dB L_{dn} with the windows and doors closed be permitted.

Consistency Analysis. The proposed project is required to implement this policy of the General plan through a mitigation contained in the Noise section of the EIR. Therefore, the proposed project is considered to be **consistent** with this policy.

Policy 3. Where the development of residential or other noise-sensitive land uses is proposed for a noise-impacted area, an acoustical analysis will be required.

Consistency Analysis. The proposed project is required to prepare an acoustical analysis through a mitigation contained in the Noise section of the EIR. Therefore, the proposed project is considered to be **consistent** with this policy.

Housing Element

Policy 2.01. As an applicant, the city will use state and federal programs and work with non-profit and for-profit developers to make use of programs for which the developer must be the applicant. Specific programs which the city will use, funding permitting are: Community Development Block Grant Program (CDBG), California Rental Housing Construction Program (CRHCP), and Housing and Urban Development programs to finance very low-, low- and moderate-income housing, and state and federal programs aimed at providing housing and related services to homeless individuals.

Consistency Analysis. This policy is applicable city-wide. The city shall consider this policy when future development occurs on the project site. A consistency determination is not appropriate relative to this policy.

Policy 2.01. The city will also investigate the feasibility of issuing tax-exempt bonds or mortgage credit certificates to provide very low-, low-interest financing for affordable housing.

Consistency Analysis. This policy is applicable city-wide. The city shall consider this policy when future development occurs on the project site. A consistency determination is not appropriate relative to this policy.

Policy 2.03. The city will provide density bonuses to home builders proposing to include a minimum specific percentage of very low-, low-, and moderate-income dwelling units within residential developments.

Consistency Analysis. This policy is applicable city-wide. The city shall consider this policy when future development occurs on the project site. A consistency determination is not appropriate relative to this policy.

Riverbank Zoning Ordinance

The plan area is located outside the existing city limits in the unincorporated portion of Stanislaus County. Therefore, the plan area does not contain a city zoning designation at this time. However, as a part of implementing the adoption of the Specific Plan and prior to annexation and subsequent development of the plan area, the city will be required to prezone the plan area to establish appropriate zoning designations.

The zoning classification for the Crossroads Community Specific Plan will be SP97-1 as shown in Figure 19 of the Specific Plan. The Specific Plan zoning classification is consistent with the Riverbank Zoning Ordinance, Section 3.2 - *Land Use Concept Overview*, and Chapter 10 of the Specific Plan establishes zoning districts (refer to Figure 5 and Table 1) and land use regulations and standards (refer to Chapter 10 of the Specific Plan) that will control land use and development within the land uses identified for the Specific Plan area. These regulations amend, and where no consistent, supersede, the regulations of the Riverbank Municipal Code. Where

standards or regulations are specified in the Specific Plan, the requirements of the Riverbank Municipal Code shall provide the regulatory authority.

The Crossroads Community Specific Plan shall be implemented through a method of Planned Development (PD) permits and site plan review and approval. A Planned Development permit is required for the commercial, industrial, and multi-family sites. Site plans for single-family lots are subject to the review procedures of the building permit process in effect at the time of application for a building permit. Plans for the landscape and open space areas are subject to the review and approval of the Planning Department. Plans for the parks are subject to the review and approval of the Recreation Commission.

Upon the City Council's action to prezone the plan area consistent with the zoning provisions specified in the *Crossroads Community Specific Plan*, the proposed project would be **consistent** with the *Riverbank Zoning Ordinance*.

Stanislaus County General Plan

The 1994 *Stanislaus County General Plan* contains policies regarding planning and development issues for lands located in the unincorporated portion of Stanislaus County. At this time, the plan area is located within the jurisdiction of Stanislaus County.

The existing land use designation for the plan area, as determined by the *Stanislaus County General Plan*, is "Agriculture". Allowable uses include any agricultural activities and uses necessary to support those agricultural activities, as well as other uses, which by their unique nature are not compatible with urban uses, provided they do not conflict with the primary use, agriculture.

In 1989, LAFCo granted approval for the inclusion of approximately 633 acres of the plan area into the city's secondary sphere of influence. Subsequently, an additional 54 acres were added to the plan area to avoid creating an island of unincorporated land. Therefore, the city is requesting LAFCo approval for the annexation of approximately 687 acres of land to the City of Riverbank.

The reorganization of the city's boundaries to approve the annexation of the plan area to the city conflicts with the land use designation provided in the Stanislaus County General Plan. The intent of the agricultural land use designation is to ensure the continued use of agricultural land which is deemed productive or potentially productive. However, LAFCo's decision in 1989 to include the plan area within the city's secondary sphere of influence was based on the grounds that the plan area is contiguous with the existing city boundaries and is located on lesser quality soils. Therefore, by including the plan area within the city's secondary sphere of influence, LAFCo has determined that ultimate annexation of the plan area to the city is appropriate. Further, based on LAFCo's decision, it would be appropriate for Stanislaus County to recognize the plan area as an urban transition area.

According to the *Stanislaus County General Plan*, an Urban Transition land use designation is appropriate for undeveloped land located within the established sphere of influence of a city or town. The intent of this land use designation is to ensure that land remains in agricultural production until urban development consis-

with the city's general plan designation is approved. Since the plan area is within the city's secondary sphere of influence, and city approval of the specific plan and corresponding environmental analysis is required by law, future development within the plan area cannot occur until the proposed project is approved by the Riverbank Planning Commission and City Council. Upon their approval, the proposed project would be consistent with the city's general plan and application for annexation of the plan area to the city would ensue. Upon annexation of the plan area to the city, the county general plan would no longer have jurisdictional authority on decisions made regarding the plan area. Under the current conditions, the proposed land uses would be **inconsistent** with the county general plan. However, since, development of the plan area would not occur until after annexation, the county general plan **is not applicable** to the project.

Agricultural Element

Policy 1.10. The county shall continue to implement its Right-to-Farm Ordinance.

Consistency Analysis. Stanislaus County Ordinance Code, Section 9.32.010, Chapter 9 is intended to protect the rights of farmers to carry on their "normal" agricultural practices with a decreased risk of nuisance lawsuits. The city is aware of the agriculture/urban use conflict and intends to work with the county in implementing this policy. Future property owners will be notified of the county ordinance through disclosure laws relating to buying/selling property. The proposed project will be **consistent** with this policy.

Policy 1.11. The county shall protect agricultural operations from conflicts with non-agricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.

Consistency Analysis. Existing agricultural operations will be buffered from the proposed project by Oakdale Road, Claribel Road and Roselle Avenue. As these roadways are expanded, they will add additional buffer. Furthermore, it is anticipated that the residential units on the west and east side of the project will be enclosed by some type of noise attenuation walls and landscaped buffers. To the south of the project, where commercial land use is proposed, large expanses of parking area will add additional buffer to the proposed residential land uses in the plan area. The proposed project is considered **consistent** with this policy.

Policy 1.12. Setbacks from agricultural areas shall be established to minimize adverse impacts of adjacent uses on agriculture.

Consistency Analysis. Refer to consistency analysis for policy 1.11.

Policy 2.4. To the greatest extent possible, development shall be directed away from the county's most productive agricultural areas.

Consistency Analysis. When the plan area and other areas in the immediate vicinity of the plan area were considered by Stanislaus County LAFCo for inclusion in the City of Riverbank's secondary sphere of influence, LAFCo determined that it would be the most appropriate direction given two major factors. The first relates to

the fact that Modesto is expanding primarily to the north towards the City of Riverbank and, secondly, the area contains soils with a lower quality agricultural value. The proposed project is considered **consistent** with this policy.

Policy 2.5. New areas for urban development (as opposed to expansion of existing areas) shall be limited to less productive agricultural areas.

Consistency Analysis. Refer to consistency analysis for policy 2.4.

1.7.2 Consistency With Regional Plans

Stanislaus County Local Agency Formation Commission (LAFCo). Policies and Procedures

LAFCo is an independent, county-wide, regulatory agency charged by law to discourage urban sprawl and promote the orderly formation and development of local government agencies. LAFCo is authorized to determine a sphere of influence and urban service boundary for each local government agency and to review and approve requests for annexations within the sphere of influence.

As the city continues to grow and develop, the loss of agricultural land is inevitable. In order to curb urban sprawl, the Cortese/Knox Local Government Reorganization Act of 1985 was established; this act requires LAFCo to conserve and protect the agricultural resources, and to develop and determine the sphere of influence of each local jurisdiction within each county. A sphere of influence is defined as a plan for the probable ultimate physical boundaries and service area of the local government agency within a 20-year time frame. Development of the sphere of influence assists LAFCo in carrying out its responsibilities and its stated purpose: the planning and shaping of logical and orderly development of local government agencies in the county.

LAFCo determines the sphere of influence boundaries based on whether or not the city needs additional land for future development. LAFCo requires all projects to be consistent with city general plans in adopting or amending a sphere of influence. In analyzing this issue a number of factors are considered including, but not limited to, population and housing projections, absorption rates and the jobs-to-housing balance in the city. Furthermore, issues and concerns such as density policies, development standards, geology, agricultural productivity and future use is considered by LAFCo when establishing spheres of influence.

The urban service area is also determined by LAFCo based on the anticipation of short-term development needs (zero to five years), and the availability of services to accommodate those needs. LAFCo will require application of an appropriate general plan designation to territory proposed for inclusion in an Urban Service Area, and will require the evaluation of various issues and concerns including agriculture, flooding, jobs-to-housing balance, transportation and public infrastructure improvements. More importantly, LAFCo is concerned with the ability of the local jurisdiction to supply services to meet the anticipated demand and to assess the fiscal impacts

of the area plan on other agencies. LAFCo will also require an explanation of why the expansion is necessary, and how an orderly, efficient growth pattern, consistent with LAFCo mandates, will be maintained.

The city will request that LAFCo adopt a sphere of influence amendment and urban service area amendment consistent with the boundaries proposed in the specific plan. These two actions must be completed first in order to approve the annexation.

As indicated previously, LAFCo has granted approval for the inclusion of the plan area into the city's secondary sphere of influence. Therefore, the city is requesting LAFCo's approval of a sphere of influence amendment and urban service area amendment consistent with the boundaries proposed in the specific plan in order to allow subsequent annexation of the plan area to the city.

LAFCo's decision in 1989 to include the plan area within the city's secondary sphere of influence was based on the grounds that the plan area is contiguous with the existing city boundaries and is located on lesser quality soils. Therefore, by including the plan area within the city's secondary sphere of influence, LAFCo has acknowledged that annexation of the plan area to the City of Riverbank would occur sometime in the future. Therefore, based on this analysis, the proposed project is **potentially consistent** with the Stanislaus County LAFCo Policies and Procedures Manual, pending further action by LAFCo.

Stanislaus County Regional Expressway Study

The existing circulation system outside of the proposed plan area includes Claribel Road, which has been designated as a Class A, four-lane expressway with potential interchanges at Oakdale Road and Roselle Avenue. However, the study further states that Claribel Road need only be a Class C, four-lane expressway until the year 2000, and a Class B, four-lane expressway until the year 2010.

The following discussion is an evaluation of the consistency of the proposed project with policies and programs of the Expressway Study relevant to the proposed project.

F. Performance Policies for Expressway Siting and Design

Policy 1. Require specific amounts of right-of-way to be dedicated as a part of new development.

Consistency Analysis. The ultimate configuration of a Class A expressway includes a 134-foot right-of-way with six 12-foot travel lanes, a 22-foot median, and 40 feet for shoulders and buffers. To accommodate the planned interchanges at the Claribel Road/Oakdale Road and Claribel Road/Roselle Avenue intersections, a 158-foot right-of-way measured 1,000 feet from the intersection on each side of the roadway is included in the proposed project. Therefore, the proposed project is **consistent** with this policy.

Policy 4. Use intersections and interchanges to stimulate nodes and not strips of development.

Consistency Analysis. The proposed project would allow the development of a variety of commercial uses along Roselle Avenue at the future Claribel Road Expressway/Roselle Avenue interchange. Approximately 20 acres are designated highway commercial, which is considered to be consistent with the commercial designation in the general plan. The maximum allowable floor area ratio (FAR) for this area is 0.50, which would provide approximately 435,600 square feet of highway commercial space. This type of development would be concentrated at the southeastern entrance to the plan area in a clustered design format. Therefore, the proposed project is **consistent** with this policy.

Policy 13. Construct a comprehensive bikeway system throughout the county, coordinated with the expressway system. Place bike routes parallel to expressways, but not on expressways.

Consistency Analysis. The proposed project includes the construction of a Class I bikeway along Claribel Road, Roselle Avenue and Oakdale Road. Therefore, the proposed project is **consistent** with this policy.

G. Performance Policies by Land Use Category

Policy 5. Residential

a. Use sound barriers to buffer residential uses from noise.

Consistency Analysis. The proposed project includes the construction of sound barriers on external roads to mitigate noise impacts associated with traffic. Therefore, the proposed project is **consistent** with this policy.

b. Use appropriate landscaping [to] buffer residential uses from noise and to provide aesthetic value.

Consistency Analysis. The proposed project includes landscaping along all internal and external streets, and adjacent to commercial/industrial areas in order to buffer residential uses from noise and to provide aesthetic value to the proposed project. Therefore, the proposed project is **consistent** with this policy.

c. Require acoustical studies for new development.

Consistency Analysis. Future development will be required to fund for acoustical studies to determine appropriate building design, setback, and buffer characteristics (height, thickness, materials, etc.) for residential uses and to show compliance with the existing general plan noise standards. This is a requirement of project related noise impacts discussed in the section 2.9 of this EIR, and therefore, the proposed project is consistent with this policy.

f. Provide for pedestrian mobility in and around neighborhoods.

Consistency Analysis. The proposed project includes pedestrian access to all neighborhoods, as well as commercial, industrial, and recreational areas. Therefore, the proposed project is **consistent** with this policy.

- g. Preserve neighborhood character by avoiding the dissection of neighborhoods and central business districts.

Consistency Analysis. The proposed project has been designed to promote neighborhood character. Commercial and industrial business park land uses are located along the proposed expressway (Claribel Road) at the intersections of Oakdale Road and Roselle Avenue. Residential uses surround commercial and industrial land allowing convenient access to these areas by local residents without dissecting neighborhoods. Therefore, the proposed project is **consistent** with this policy.

Additionally, regional expressways do not bisect neighborhoods or commercial centers. Claribel Road, the expressway to the south of the plan area, is located on the boundary between the secondary sphere of influence of Riverbank and the Modesto sphere of influence, and provides a good boundary for the ultimate separation of these two cities.

- h. Encourage the development of open space buffer areas parallel to expressways.

Consistency Analysis. A 20-foot landscaped set-back is proposed along the external roadways of Oakdale Road and Roselle Avenue and a 25-foot greenway buffer is planned along Claribel Road. These buffers will provide landscaping, berming and a Class 1 bikeway linked to the proposed linear parks. Therefore, the proposed project is **consistent** with this policy.

- i. Discourage new residential uses from fronting on expressways.

Consistency Analysis. Residential uses will not be located adjacent to Claribel Road. The closest residential uses will be located north of the MID Canal and south of the Hetch-Hetchy right-of-way about midpoint in Claribel Road. A sound wall will be located along the back boundary of the residential lots in order to separate them from noise and other land uses along Claribel Road. Therefore, the proposed project is **consistent** with this policy.

- j. Provide sidewalks and bike paths between residential areas and employment centers.

Consistency Analysis. Pedestrian and bicycle-oriented linear parks and trails will be located throughout the plan area comprising a total of approximately 17 acres. It is anticipated that these pedestrian and bicycle-oriented linear parks and trails will become a comprehensive recreational trail system designed to interface and link to the city- and region-wide bicycle/pedestrian trails. Further, these pedestrian and bicycle trails will provide access to all commercial and industrial areas within the plan area. Therefore, the proposed project is **consistent** with this policy.

- o. Allow for the development of residential uses in combination with commercial and other employment-generating uses.

Consistency Analysis. The proposed project includes several commercial uses and an industrial business park use, which are employment-generating. These areas will generally be located along the periphery, with a village center located in the geographic center of the proposed project. This design will encourage employees of the commercial/industrial areas to reside within the plan area. Therefore, the proposed project is **consistent** with this policy.

- p. Include neighborhood-serving convenience shopping within large and other wide homogeneous residential areas in order to reduce the distance residents must travel to shop.

Consistency Analysis. Located at the center of the community is the village commercial center, which is intended for neighborhood-serving commercial uses and is consistent with the Commercial land use designation in the general plan. Approximately three acres are set aside for services such as a small grocery/market, espresso bar, video shop, al fresco cafes, boutiques, bakeries, day care facility, dry cleaners, book shops, etc. This land use designation would also allow for professional offices, such as medical and dental offices, and for second floor efficiency apartment or condominium units over commercial. Similarly, this designation is provided in combination with public/quasi-public designation to support civic uses such as a community center with a small amphitheater, a library or other civic uses. Second floor offices and/or efficiency apartments or condominiums are also allowed over public/quasi-public uses. This combination of uses will provide an opportunity for residents to walk to these services with the intent of reducing short distance auto trips. In addition, approximately 87 acres of land within the plan area is proposed to contain highway commercial and regional commercial/business park land uses. These land uses will generate employment, as well as provide more service opportunities to residents within the plan area. Therefore, the proposed project is **consistent** with this policy.

- q. New development should be encouraged to provide safe and enjoyable off-street links between residential areas and places of work, shopping, and recreation.

Consistency Analysis. As previously mentioned, pedestrian and bicycle circulation systems are included in the proposed project. Additionally, recreational trails are proposed for inclusion along the MID canal and within the Hetch-Hetchy easement. Therefore, the proposed project is **consistent** with this policy.

Policy 6. Commercial and Industrial and other Employment-Generating Uses

- b. Encourage a mix of commercial, industrial, and office development. Limited development of restaurants, mini-markets, delicatessens and gas stations within an industrial office park will reduce daily trip volume to/from the area.

Consistency Analysis. Commercial and industrial land uses will be located closely together within the plan area. This will assist in reducing daily trip volume to and from the area. Additionally, the proximity of residential areas to commercial and industrial areas may further reduce trip volumes. Therefore, the proposed project is **consistent** with this policy.

- c. Seek to balance jobs, housing, and commerce in the county to provide employment opportunities and transportation efficiency.

Consistency Analysis. As previously mentioned, the proposed project includes a balanced mix of residential, commercial and industrial land uses. Further, the concentric design of the transportation circulation system focuses on the village commercial center. The proximity of the village commercial center and other commercial areas to residential land uses within the plan area will reduce daily traffic trip volumes to and from the plan area. Therefore, the proposed project is **consistent** with this policy.

- d. Require Transportation System Management (TSM) measures as a part of industrial/commercial/employment generating projects.

Consistency Analysis. A traffic analysis was performed by KD Anderson Transportation Engineers (1994) on the proposed project. Although the traffic analysis provided mitigation measures to accommodate build-out of the plan area, the use of TSM measures is not mandated. Section 2.0 , Traffic and Circulation, therefore contains a mitigation measure requiring the future commercial and employment generating land uses within the plan area to prepare a TSM program. Based on this analysis, the proposed project is **consistent** with the policy.

- e. Encourage the capitalization of visibility from expressways for commercial uses.

Consistency Analysis. Highway commercial and regional commercial/business park land uses are proposed along the majority of the plan area's frontage to Claribel Road, which is proposed as a Class A expressway for the year 2010. The placement of these land uses along Claribel Road will ensure high visibility for travelers along this roadway. Therefore, the proposed project is **consistent** with the policy.

1994 Regional Transportation Plan (RTP)

The RTP policy element directly reflects the legislative, planning, financial, and institutional requirements that have continually shaped the region's transportation. The policy element is intended to frame and drive actions that will affect the direction and nature of transportation and its impact on Stanislaus County and the surrounding region.

The overall goal of the RTP is to respond to transportation needs within Stanislaus County; however, the RTP must also respond, as appropriate, to the needs of the "inter-regional" transportation system which transcends county boundaries.

Therefore, when the word "region" is used, it is used to acknowledge the inter-regional transportation system and related environmental concerns.

As stated in the RTP, the overall goal in Stanislaus County is as follows:

To develop an intermodal transportation system that is balanced, economically efficient, environmentally sound, supports and stimulates the economic vitality of the region, promotes equity for system users, and will move people and goods in an energy efficient manner.

To target achievement of this goal in a meaningful way, more specific objectives have been identified in the RTP. These objectives include the following:

1. To provide for an acceptable level of mobility for the movement of people and goods;
2. To provide for an economically efficient transit system whose attractiveness will divert riders from autos to transit, thereby assisting in reducing energy consumption, traffic congestion and improving air quality;
3. To develop, through cooperation with all agencies and private parties involved, an inter-regional railroad system that provides for the convenient and efficient movement of passengers and freight;
4. To develop, through cooperation with all agencies involved, a system of airports responsive to local development and land use plans and capable of serving the growing air commerce and general aviation needs of the region;
5. To provide safe and convenient non-motorized transportation facilities for pedestrians, bicyclists and individuals with disabilities that serve as an alternative to the automobile;
6. To provide for a transportation system that promotes and maintains the economic vitality of the region;
7. To provide equitable access to the region's transportation system;
8. To promote a transportation system that improves air quality and supports a healthful environment;
9. To develop a transportation system that is financially feasible, and has a commitment to its implementation by elected officials, the public and those providing transportation services; and
10. To provide for the involvement of all users in the transportation planning and decision making process.

Consistency Analysis. Associated with each of the above objectives is a list of policies. Policies directly relevant to the proposed project are referred to in the fol-

lowing analysis and are linked to their respective objectives through the number sequence used above.

(Objective 1.) Transportation Control Measures (TCM) are Transportation System Management (TSM) and Transportation Demand Management (TDM) strategies that reduce pollutant emissions from motor vehicles by reducing vehicle miles traveled, vehicle idling and traffic congestion. TSM strategies are relatively low-cost capital improvements which relieve congestion without adding vehicle capacity to the system. These include engineering-oriented measures such as signal synchronization, ramp metering, restriping and channelization projects. TDM strategies are peak hour demand-based techniques that respond to the need for managing travel behavior. These strategies are designed to reduce the number of vehicle trips during peak hours by shifting demand to other modes of travel. TDMs also respond to the need for jobs/housing balance through land use management. TDM strategies include transit use, rideshare programs, high occupancy vehicle lanes, bicycling, walking, telecommuting and mixed land uses.

The proposed project's primary response to these strategies is through the land use design integrated in the *Crossroads Community Specific Plan*. The centralized commercial area (designated as Village Commercial) of the community is approximately one-quarter mile from most of the project area (except in the northwest corner where distances to the core are up to one-half mile). The basis for this centralized village concept is that most people are willing to walk no more than one-quarter mile.

The Crossroads Community design is intended to provide future residents an incentive to walk as much as possible for basic necessities. Therefore, the design concept also addresses air quality and transportation issues. To enhance the alternative transportation mode experience, the project includes landscaped medians radiating out from the village center.

(Objective 1) Claribel Road is identified in the Regional Expressway System Plan as a "Priority 2" facility. Claribel Road flanks the south boundary of the proposed plan area. The city will be required to set aside right-of-way for this potential future roadway expansion. This fact is provided for in the *Crossroads Community Specific Plan*.

(Objective 5) The needs of pedestrians, bicyclists and individuals with disabilities shall be given special attention in the project design review process by developing a system of local and regional bikeway and pedestrian routes which provide for safe and convenient commuter and recreational travel giving special attention to the removal of barriers.

Inherent in the project design is accommodation of pedestrians and bicyclists as discussed above. Furthermore, the city's right-of-way set-aside includes adequate space for Class I bike lanes on Roselle Avenue, Oakdale Road and Claribel Road, and Class II bike lanes in Morrill Road and Crawford Road.

Based on the proposed designs integrated into the Specific Plan, the proposed project is considered to be **consistent** with the RTP's Stanislaus County policy elements.

The RTP, through a federal legislation commonly known as the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), must also provide an inter-regional perspective to transportation planning within the San Joaquin Valley. The mandate revolves around geographically-defined air basins. The air basin includes the counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Tulare, Kings and the San Joaquin Valley portion of Kern. The inter-regional perspective is incorporated in the RTP in a section titled "San Joaquin Valley Regional Transportation Overview."

The San Joaquin Valley counties have implemented an aggressive program of coordinated valley-wide planning. In September 1992, eight Transportation Planning Agencies (TPA) in the San Joaquin Valley entered into a Memorandum of Understanding (MOU) to assure a coordinated regional approach to transportation and air quality planning efforts. The MOU goes well beyond the requirements of ISTEA by establishing a system of coordination of plans, programs, traffic and emissions modeling, transportation planning, air quality planning and consistency in data analysis/forecasting.

The policy element of the Transportation Overview, which addresses inter-regional transportation planning, provides "goals", "objectives" and "policies." This discussion includes an overview of the goals only. They include the following:

1. Design, develop and maintain a multi-modal transportation system which efficiently and safely moves people and goods and also serves the social, economic and physical needs of Valley residents while enhancing their quality of life;
2. Develop and finance multi-modal transportation facilities and services which are consistent with regional and local growth policies and are consistent with state and federal air quality plans;
3. Define, preserve and enhance Valley transportation corridors;
4. Maintain the existing transportation system; and
5. Encourage land use design which is more efficient and conducive to multi-modal choice and the use of transit, non-motorized and rail alternatives.

Unlike other local and regional plans, the RTP Transportation Overview is not project specific enough to accommodate a project consistency analysis. Regardless, the RTP is included in the discussion because of its major regional and land use implications.

The Ozone Attainment Demonstration Plan

Stanislaus County is within the San Joaquin Valley Air Basin (hereinafter "basin") which is administered by the San Joaquin Valley Unified Air Pollution Control District (APCD). The APCD currently does not meet the federal health-based standard of 0.12 parts per million for ozone and is classified by the EPA as a serious nonattainment area. Ozone at levels above the federal standard adversely affects public health, diminishes the production and quality of many agricultural crops, reduces

visibility, degrades man-made materials, and damages native and ornamental vegetation.

Serious nonattainment areas, as they pertain to ozone, must demonstrate that the federal standard will be obtained by 1999. This component must include all possible control measures necessary to make attainment. The APCD anticipates that attainment will be achieved by 1999 (San Joaquin Valley APCD 1994). The TCM, Motor Vehicle Emission Reduction Projects and other programs have been adopted and implemented by the APCD. The TCMs are measures that seek to reduce the increase in the use of single passenger vehicles, and are cooperatively implemented by the APCD, other local agencies, and businesses.

The APCD has entered into a MOU with the TPA having jurisdiction within the APCD, to jointly develop and implement transportation plans and programs within the APCD. Motor Vehicle Emission Reduction Projects are implemented by the District, pursuant to section 44220 of the State Health and Safety Code, to reduce air pollution from motor vehicles. The APCD also implements other programs (e.g., Smoking Vehicle Program and public education programs) that result in emissions reductions.

Through implementation of the *Crossroads Community Specific Plan* and its pedestrian and bicycle amenities, combined with statewide efforts to introduce alternative fuels and education programs, the project is considered to be **consistent** with the plan.

1994 Serious Area PM10 Plan

The basin is in nonattainment for particulate emissions PM10. The Federal Clean Air Act Amendments (FCAAA) of 1990 classified all PM10 nonattainment areas as Moderate Nonattainment and required such areas to meet the December 1994 date for attainment. However, the basin did not reach attainment by that date and was reclassified by the EPA as a "Serious Nonattainment" area. This new classification requires the APCD to come into attainment by December 31, 2001. In October 1993, the APCD governing board adopted regulations that would help the basin achieve attainment classification by 2001.

Because of the "serious" classification, the APCD is required by the EPA to develop a plan to adopt more stringent measures as part of its efforts toward achieving the federal standards for PM10. The rules must contain Best Available Control Measures and must be directed at those sources identified as generators of fugitive dust and other significant area sources of PM10, and Best Available Control Technology for point sources of PM10 and precursor emissions.

Through implementation of existing and future APCD emission controls the proposed project will be **consistent** with this plan.

1.8 EIR Uses

In accordance with CEQA guidelines section 15124, this section contains two lists. The first identifies the agencies that are expected to use the EIR in their decision making, and the second identifies the approvals for which the EIR will be used.

1.8.1 List of Agencies

City of Riverbank (Lead Agency)

Riverbank City Council
Riverbank Planning Commission
Riverbank Planning Department
Riverbank Department of Public Works

Regional Agencies

Sylvan Union School District
Oakdale Joint Union High School District
Riverbank Elementary School District
Modesto High School District
Modesto Irrigation District
San Joaquin Valley Unified Air Pollution Control District
Stanislaus Local Agency Formation Commission
Stanislaus Area Association of Governments
Hetch-Hetchy Water and Power
Regional Water Quality Control Board

State Agencies

Department of Fish and Game
Department of Transportation
Regional Water Quality Control Board

Federal Agencies

U.S. Army Corps of Engineers

1.8.2 List of Approvals

- Amendments to the General Plan, as needed, to incorporate the Specific Plan
- Rezoning Approval
- Inclusion of Plan Area in the city's Primary Sphere of Influence and Urban Service Area
- Annexation of Plan Area into the city
- Amendments to the city's Municipal Code, as needed, to incorporate Specific Plan standards and regulations
- Notice of Intent (Associated with the Regional Water Quality Control Board's General Permit for Storm Water Discharges)
- Development Agreements
- Tentative Maps
- Site Plans
- Planned Development Permits
- Building Permits

2.0 Environmental Setting, Impacts and Mitigation Measures

Pursuant to CEQA Guidelines sections 15125 and 15126, this section describes the environmental setting of the plan area and evaluates the potentially significant environmental effects that could occur upon implementation of the proposed project. This section will also prescribe mitigations for significant impacts or will describe those impacts which cannot be avoided through implementation of mitigation(s).

2.1 Geology

Environmental Setting

The plan area is located in the San Joaquin Valley between the Sierra foothills to the east and the Diablo Mountains to the west. The geomorphology of the San Joaquin Valley is the result of numerous complex geologic events, including the uplifting and faulting of the surrounding mountains. The San Joaquin Valley was once a submerged trough, formed by movement along earthquake faults, and since filled with glaciated erosional sediments which provide the base for the region's rich agricultural industry (Stanislaus Area Association of Governments June 1974).

Topographically, the plan area is extremely flat, varying only five feet from the highest point at 125 feet above sea level, to the lowest point at 120 feet above sea level. The plan area is underlain by soils of moderate old fans and low alluvial terraces. Moderate old fans are formed much like alluvial fans although erosion has caused a more gently sloping topography. The difference between old fans and alluvial fans is the greater degree of sediment hardening. This creates a rock-like hardness at shallow depths, which is only present in soils east of the San Joaquin River.

Alluvial terrace surfaces are former valley floor surfaces, which are vestiges of former floodplains. The streams which created the former floodplain have cut down into their own previously deposited alluvium. The combination of general uplift and glaciation in the Sierras has caused the downcutting of former floodplains in Stanislaus County. Both the moderately old fans and the low alluvial terraces date from the Pleistocene. The soils range from 10,000 to 140,000 years old (ibid.).

The plan area is susceptible to seismic activity, primarily due to the fact that the San Joaquin Valley is juxtaposed between two regional fault systems: a series of fault patterns west of the plan area in the coastal region and one fault pattern east of the plan area in the mountain region.

There are three major fault patterns located in the coastal region. These include the San Andreas fault (approximately 60 miles west of the plan area), the Hayward fault (approximately 50 miles west of the plan area), and the Calaveras fault (approximately 50 miles west of the plan area). There is only one major fault pattern located in the mountain region; the Mother Lode fault system of the Sierra Nevada (approximately 50 miles east of the plan area). All of these faults are active and

capable of generating large earthquakes capable of damaging both man-made and natural structures on a regional scale.

In addition, there are four pre-Quaternary fault patterns (older than two million years with no indication of recent displacement) in or near Stanislaus County. These pre-Quaternary fault patterns include the Telsa and Ortigalita fault systems, which are located approximately 26 miles from the plan area within Stanislaus County, and the Bear Mountain and Melones fault systems, which are located outside the county approximately 24 and 30 miles from the plan area, respectively. All of these active and inactive fault systems listed above trend in a northwest to southeast direction.

Seismic activity in the region presents several potentially significant seismic hazards to future development within the plan area, including ground shaking, surface rupture and liquefaction. As with the majority of the land in California, groundshaking resulting from a major earthquake on an adjacent fault could cause significant impacts on the plan area.

Ground shaking is dependent on subsurface soil conditions. The more lightly compacted and water-saturated the soil conditions are, the more capable the ground is of transmitting seismic waves. Alluvial soils can be expected to experience greater ground shaking motion than areas which are underlain by firm bedrock. The potential for ground shaking at the plan area is moderate to high given the proximity to active and potentially active faults.

Ground rupture is most likely to occur along existing faults. The potential for ground rupture within the plan area is low as no known active or potentially active faults are located within the plan area.

Liquefaction occurs in areas with gravely, granular soils that have a limited clay content and where the water table is within 30 feet of the ground surface. The potential for liquefaction within the plan area is low given the hardpan layer of the sub-soil at a depth of 18 to 30 inches that neither roots nor water can penetrate. Further, the water table is more than 30 feet from the ground surface.

Project Analysis

Standard of Significance. According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will expose people or structure to major geologic hazards.

Several types of geologic hazards are possible in a seismically active area. These hazards include ground shaking, surface rupture, and liquefaction. With the exception of ground shaking, none of these geologic hazards are anticipated to adversely impact future development on the plan area.

It is not anticipated that the four pre-Quaternary fault systems located in the vicinity of the plan area would become active during the lifetime of the proposed project. However, a major earthquake could occur anytime along any one of the four active fault systems identified above and could occur during the lifetime of the proposed

project. Ground shaking resulting from a major earthquake on an adjacent fault could cause significant impacts.

Segments of the San Andreas fault, the Calaveras fault, and the Sargent fault are located in proximity to the plan area. These three faults are active and are considered capable of producing severe ground shaking events. Maximum earthquake intensities capable of occurring under existing known geologic conditions are 8.25 on the Richter scale for the San Andreas fault, 7.5 for the Calaveras fault, and 7.0 for the Sargent fault.

In the event of a strong earthquake centered along any of these faults, ground shaking at the plan area will probably be moderate to severe. However, the potential for damage to structures and improvements caused by an earthquake is partially dependent on several variables that are independent of ground shaking intensity. These variables may include the composition of subsurface materials (which affects the conveyance of ground vibration), type of construction employed, and type of construction materials used. Regardless, this level of seismically-induced ground shaking at the plan area is considered a significant hazard.

Impacts and Mitigation Measures

Impact

Due to the location of the plan area in relation to the two regional fault systems east and west of the plan area, and due to the proximity of the plan area to the four active faults located within these regional fault systems, it is reasonable to expect that the plan area will experience a large-magnitude earthquake within the usable lifetime of buildings which may be constructed on the plan area. *This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.*

Mitigation

1. All development within the plan area shall be designed in accordance with the earthquake standards contained in the Uniform Building Code, subject to the review and approval of the City Engineer prior to issuance of a building permit.

2.2 Soils

2.2.1 Soil Types

Environmental Setting

There are five soil types contained within the boundaries of the plan area (Natural Resources Conservation Service, Soils of Eastern Stanislaus County):

- GvA—Greenfield sandy loam, deep over hardpan, (0 to 3 percent slopes);
- HdA—Hanford sandy loam, (0 to 3 percent slopes);
- MdA—Madera sandy loam, (0 to 2 percent slopes);
- OaA—Oakdale sandy loam, (0 to 3 percent slopes); and
- SaA—San Joaquin sandy loam, (0 to 3 percent slopes).

The location of each soil type is generally illustrated in Figure 6.

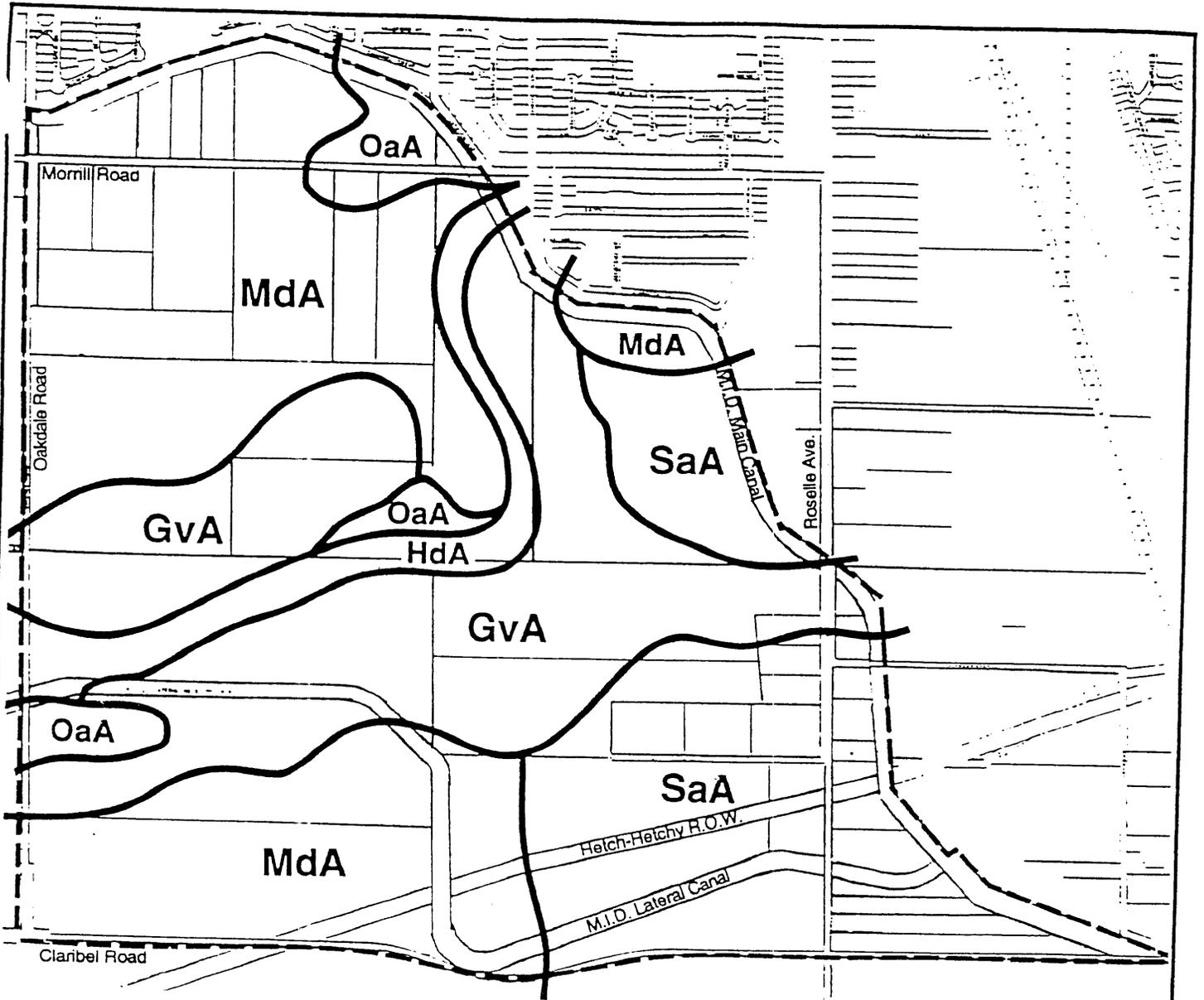
Greenfield sandy loam, deep over hardpan (GvA). This soil type is characterized by a smooth, nearly level to gently sloping slope. Permeability of the soil is moderately rapid and run-off is very slow. The water holding capacity is five to seven inches, drainage is good, and the erosion hazard is slight. This soil type is found on approximately 20 percent of the plan area.

Hanford sandy loam (HdA). This soil type is characterized by a smooth, nearly level to gently sloping slope. Permeability of the soil is rapid and run-off is very slow. The water holding capacity is five to seven inches, drainage is good and the erosion hazard is slight. This soil type is found on approximately five percent of the plan area.

Madera sandy loam (MdA). This soil type is characterized by a gentle slope. Permeability of the soil and run-off is very slow. The water holding capacity is two to four inches, drainage is good and the erosion hazard is slight. This soil type is found on approximately 50 percent of the plan area.

Oakdale sandy loam (OaA). This soil type is characterized by a smooth, nearly level to gently sloping slope. Permeability of the soil is good. Run-off and water holding capacity is good and erosion is not a hazard. This soil type is found on approximately five percent of the plan area.

San Joaquin sandy loam (SaA). This soil type is characterized by a smooth, gently undulating slope. Permeability of the soil is moderate and run-off is very slow. The water holding capacity is seven to 10 inches, drainage is good and the erosion hazard is slight. This soil type is found on approximately 20 percent of the plan area.



- GvA Greenfield sandy loam
- HdA Hanford sandy loam
- MdA Madera sandy loam
- OaA Oakdale sandy loam
- SaA San Joaquin sandy loam

Source: U.C. Division of Agricultural Sciences



No Scale



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City of Riverbank
 Crossroads Community Specific Plan EIR
Soils

Figure
6

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Project Analysis

Standard of Significance. According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will cause substantial soil erosion.

Impacts and Mitigation Measures

Impact

Based on the soil characteristics of the proposed plan area, the potential for erosion during and after construction of the proposed project is slight. Combined with the City of Riverbank requirement for a grading plan and erosion control plan, which requires all developments to adhere to guidelines developed to control erosion, siltation and run-off flows, and the Regional Water Quality Control District's State General Construction Activity Storm Water General Permit, which also dictates strict grading, erosion control and run-off guidelines, the proposed project will not result in significant levels of soils disturbance. *This is considered to be a less-than-significant environmental impact. No mitigation measures are necessary.*

2.2.2 Agriculture

Environmental Setting

There are multiple tiers of agricultural land designations which are based on federal, state and local criteria. Ultimately, the local criteria will be the applicable criteria used to determine the Standard of Significance relating to this project.

Federal. The United States Department of Agriculture, Natural Resources Conservation Service (NRCS) uses a system that classifies each soil type based on the soil's capability unit. Capability units illustrate the suitability of soils for crop production. The capability unit of a soil is translated into class ratings. The NRCS has developed eight class ratings based on the capability unit of each soil type, Class I representing the best soils, and Class VIII representing soils that have little value for crop production.

In addition, a Storie index rating system is applied by the NRCS to measure the productivity of agricultural lands. This system expresses numerically (from 0 to 100) the relative degree of suitability and value of a soil for general intensive farming. Four factors represent the inherent characteristics and qualities of soil and are considered in the Storie index rating. These factors are profile characteristics, texture of surface soil, slopes, and other conditions (high water table, risk of erosion, high alkalinity, etc.). Soils which are best suited for agricultural production fall within a Storie index rating of 80 to 100; soils with limited agricultural constraints are those with Storie index ratings between 60 and 79.

Based on these four factors, soils are then placed in grades according to their suitability for farm crops, as shown by their Storie index ratings; grade 1 being the highest and grade 6 the lowest. Table 3 illustrates the capability class and Storie index rating for the five soil types found on the plan area. To determine a soils prime agricultural land status, the State Department of Conservation information is used.

TABLE 3
Agricultural Production Characteristics

Map Term	Text Terminology	% of Site	Class	Storie Rating	Grade
GvA	Greenfield sandy loam, deep over hardpan	0.20	II	68	2
HdA	Hanford sandy loam	0.05	I	95	1
MdA	Madera sandy loam	0.50	IV	33	4
OaA	Oakdale sandy loam	0.05	I	90	1
SaA	San Joaquin sandy loam	0.20	IV	33	4

Source: U.S. Department of Agriculture, Natural Resources Conservation Service

State. Agricultural land is designated by the state as Prime Farmland when the soil is found to have the best combination of physical and chemical characteristics for agricultural crop production. Class I and II soils meets this criteria. Furthermore, an area is designated as Prime Farmland by the state if it has been used for the production of irrigated crops within the last three years.

Agricultural land is designated by the state as Farmlands of Statewide Importance when the soil exhibits similar characteristics to those supporting prime farmland. This designation implies a good combination of physical and chemical characteristics of the soil for agricultural crop production and, like prime farmland, used for the production of irrigated crops within the last three years. The remaining undeveloped portion of the plan area is considered to be Farmlands of Statewide Importance.

According to the California Department of Conservation and the University of California Cooperative Extension, approximately 30 percent of the plan area contains soils determined to be Prime Farmland. The majority of the plan area falls within the Farmlands of Local Importance designation (Marsha Campbell, pers. com., April 5, 1995).

The prime farmland determination for the soil types described above is provided based on California Department of Conservation criteria (Richard Withers, pers. com., September 14, 1995), which is developed in conjunction with the NRCS. The soil types GvA, HdA, and OaA are considered prime and depicted in Figure 6.

Williamson Act Lands. Approximately 75 percent of the plan area is under Williamson Act contracts. Figure 7 illustrates the location of parcels currently subject to the Williamson Act.

Under the Land Conservation Act ("Williamson Act") passed in 1965, farmers are able to enter into land conservation contracts with the county which enable them to enjoy reduced property taxes in exchange for maintaining their land in agricultural production. Once entered into by a property owner, a Williamson Act Contract ("contract") is binding for a period of ten years.

Contracts are automatically renewed each year unless the property owner files a notice of non-renewal. After filing a notice of non-renewal, the property may not be converted to other uses until the contract runs out (ten years from the date of filing the notice of non-renewal), during which time property taxes are gradually increased to reflect the full market value of the land. Upon expiration of the contract, the property is free of land use restrictions and the property owner is denied further property tax benefits associated with the former contract.

Alternatively, the property owner may apply to the contracting entity for dissolution of the contract prior to expiration. The contracting entity (county or city depending on where the land is located) would then have the discretion to cancel the contract by making certain findings, including the finding that the proposed land use is consistent with the applicable general plan. If cancellation is granted, the property owner would then be required to pay 12.5 percent of the current market value of the land to obtain cancellation of the contract. (Darryl Weitz, pers. com., November 1995).

In addition, for land annexed to a city that was located within one mile of such city at the time the contract was entered into, and where the city had filed and the LAFCo had accepted a protest to the contract pursuant to California Government Code Section 51243.5 prior to 1991, and the city states its intent not to succeed in its resolution of intent to annex, the contract becomes null and void on the date of annexation. (California Govt. Code sec. 51243, as amended, 1990).

Local

Stanislaus County Local Agency Formation Commission (LAFCo). LAFCo has a set of criteria to determine land best suited for agricultural production. The Cortese/Knox Local Government Reorganization Act defines "prime" agricultural land as an area of land, whether a single parcel or contiguous parcels, which has not been developed for a use other than agricultural use, and which meets any one of the following qualifications:

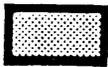
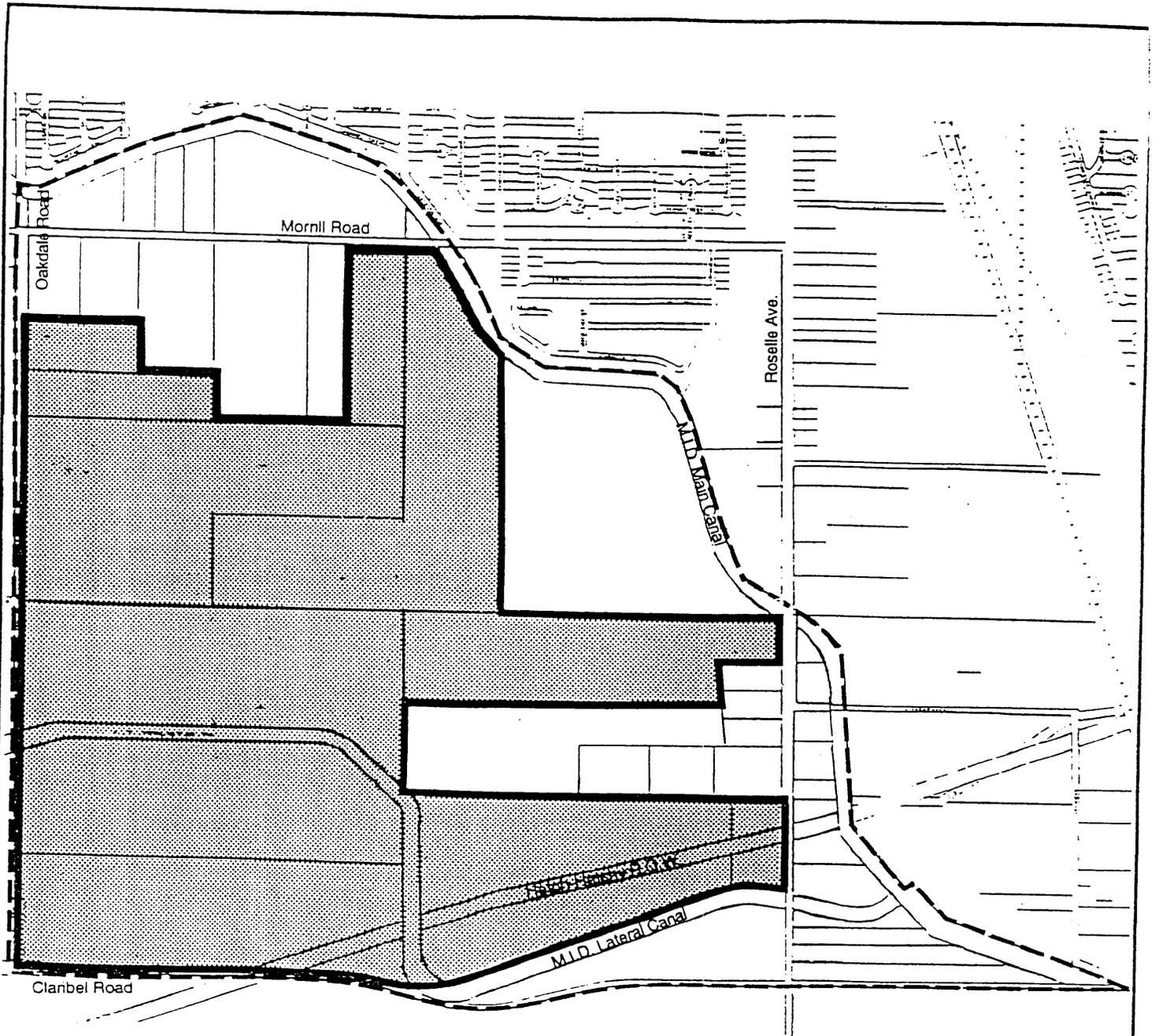
1. Soils rated as capability class I or II;
2. Lands with soils of a Storie index rating between 80 and 100;
3. Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal per acre;

4. Cultivated land which has been productive within the last five years that will return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than two hundred dollars (\$200.00) per acre;
5. Cultivated land which has returned from the production of unprocessed agricultural plant products an annual gross value of not less than two hundred dollars (\$200.00) per acre for three of the previous five calendar years; and
6. Land which is used to maintain livestock for commercial purposes.

Stanislaus County General Plan. Until the properties are annexed into the city, the territory outside the city is subject to the jurisdiction of the county. The county's General Plan provides policy direction for these properties, as follows:

1. The county's Agricultural Element policies state that proposal will be reviewed on a case-by-case basis. Factors to be considered include soil types, potential for agricultural production, availability of irrigation water, ownership and parcelization patterns, uniqueness and flexibility of use, the existing of Williamson Act contract, and existing uses and their contributions to the agricultural sector of the local economy. Setback from agricultural areas shall be established to minimize adverse impacts of adjacent uses on agriculture (Agricultural Element, Goal 1).
2. The county recognizes the right of cities and unincorporated communities to grow and prosper and shall not oppose reasonable requests to expand Spheres of Influence of cities or community services districts and sanitary districts serving incorporated communities to accommodate growth. However, the county shall discourage the expansion of Spheres of Influence of cities or communities into its most productive agricultural areas. To the greatest extent feasible, the county shall require mitigation of the impacts of farmland conversion (Agricultural Element, Goal 2).
3. New areas for urban development (as opposed to expansion of existing areas) shall be limited to less productive agricultural areas. Agriculture, as the primary industry of the county, shall be promoted and protected (Agricultural Element, Goal 2).
4. The county's Land Use Element states that designated agricultural land shall be restricted to uses that are compatible with agricultural practices, including natural resources management, open space, outdoor recreation and enjoyment of scenic beauty (Land Use Element, Goal 1, Policy 2).

City of Riverbank General Plan. There is one policy in the Open Space element that is most directly relevant to the agricultural land issue. Policy A-3 states that annexations shall be designed to minimize the conflict between urban development and the open, agricultural land.



Williamson Act Parcels

Source: State of California, Department of Conservation



No Scale



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City of Riverbank
Crossroads Community Specific Plan EIR
Williamson Act Lands

Figure
7

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The proposed project represents an appropriate approach to annexation because it is bound by collector and arterials that will serve as barriers between remaining agricultural land and urban development, and is in an area between Riverbank and the city of Modesto where future urban development is currently planned. Therefore, the proposed project is considered to be consistent with this policy.

Operation Characteristics of Existing Agricultural Practices

Although the proposed Crossroads Community Specific Plan will have significant impacts on productive agricultural land, this section describes the general operational characteristics of agricultural production as they relate to the natural environment.

Use of Chemicals. Several different types of chemicals are often used on agricultural lands to increase yield. Use and type of chemicals depend on such factors as time of year, weather, pest populations, etc. All chemicals used in California have undergone the California Department of Food and Agriculture pesticide registration process, which requires information on toxicology, water solubility, skin contact, and other related information. All pesticides are required to be applied per manufacturer's label instructions to ensure safe use. Most chemicals are applied by spraying either by hand, tractor or airplane. Aerial spraying of chemicals on agricultural land next to residential development can be considered a health hazard because sprays may drift onto non target areas (City of Modesto 1995).

Water Use. To supplement an average rainfall of just 12 inches per year, local agriculture relies on irrigation water to sustain its broad diversity of crops. Modesto Irrigation District (MID) receives water from local reservoirs and streams, supplemented by groundwater. Groundwater is the major source of domestic and industrial water. The Modesto-Riverbank area is experiencing a dropping water table due to the depletion of groundwater supplies. As a result, urban and agricultural users are becoming more competitive for water supplies.

A 1988 Department of Water Resources study of agriculture and urban water requirements in Stanislaus County east of the San Joaquin River showed that agriculture used approximately 3.5 acre-feet of water per acre (Stanislaus County Department of Planning 1992).

Air Quality. Air quality in the San Joaquin Valley is declining as population and industry increase. The State of California Air Resources Board (CARB) estimates that smog caused crop losses in the Valley worth more than \$150 million in 1987. Based on studies by CARB, grapes (as well as cotton, oranges, alfalfa and tomatoes) are so severely damaged by air pollution that their harvests are down 10 to 20 percent from what they should be (CARB 1991).

Project Analysis

Standard of Significance. According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will convert

prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land. In this analysis, the LAFCo criteria used to determine prime agricultural land is the basis for the level of significance.

The loss of prime agricultural land is a growing concern for the State of California and Stanislaus County. Agriculture contributes to the state and local economy and is important for maintaining the rural character of the area, delineating urban boundaries and keeping prime groundwater recharge areas clear of impervious surfaces typically associated with urban development.

Hanford sandy loam and Oakdale sandy loam meet the class capability (Class I) and Storie index rating criteria (rating 95 and 90, respectively) established by the Cortese/Knox Local Government Reorganization Act for determining prime farmland (Criteria 1 and 2). Also, Greenfield San loam meets the class capability (Class II) criteria established by the Cortese/Knox Local Government Reorganization Act for determining prime farmland (Criteria I). It is unclear whether the remainder of the underdeveloped portions of the plan area could support livestock used for the production of food and fiber and an annual carrying capacity of at least one animal per acre (Criteria 3). It appears the soils cited above (Class I and II) are better suited to meet this criteria, and a small portion of the plan area generally covered by these Class I and II soils is used to maintain livestock at a commercial level (Criteria 6). Cortese/Knox Criteria 4 and 5, in terms of whether cultivated land in the plan area has yielded an annual gross return from the production of unprocessed agricultural plant products of not less than two hundred dollars (\$200.00) per acre for three of the previous five calendar years, is estimated to be applicable to only six percent (or 43 acres) of the plan area. It appears that this land also falls within the soils identified above.

Class I and II soils comprise approximately 30 percent of the plan area. Although these soils are considered prime farmland, they are currently used for grazing and pasture only.

Based on this analysis, approximately 30 percent of the undeveloped portion of the plan area meets at least one of the six thresholds utilized by LAFCo for determining prime farmland. Therefore, approximately 190 acres ($633 \times .30 = 190$) of the undeveloped portion of the plan area is considered to be prime agricultural land utilizing the Cortese/Knox standards.

Impacts and Mitigation Measures

Impact. Build-out of the plan area will result in the loss of approximately 190 acres of prime farmland and 443 acres of non-prime farmland (or Farmlands of Statewide Importance) south of Morrill Road. Land under Williamson Act contract may not be converted to other uses until termination or cancellation of the contract.

The proposed project will have an unavoidable significant adverse environmental impact on agricultural resources. There are no feasible mitigation measures that will reduce this unavoidable impact to a level of insignificance.

Also, as the county becomes more urbanized, there is a cumulative loss of agricultural land. The cumulative impact of urbanization and the loss of agricultural land is considered a significant EIR environmental impact and is discussed in the Cumulative Impacts section of this EIR (Section 3.3).

2.3 Hydrology

2.3.1 Surface Water

This section is based on the *Riverbank Village Specific Plan Infrastructure Study* prepared by Thompson-Hysell in June 1991. The Thompson-Hysell report was reviewed and updated, as necessary, by O'Dell Engineering in 1994. This review and update is available at the City of Riverbank City Hall as a part of the Plan for Services for the proposed project. Both the Thompson-Hysell and O'Dell reports are summarized below and incorporated herein by reference.

Environmental Setting

The plan area is located south and immediately adjacent to the Stanislaus River, which is the city's northern boundary. Drainage from the city flows ultimately to the Stanislaus River.

Water from the Stanislaus River and its tributaries originates from the higher elevations of the Sierra Nevada mountain range to the east, flows from New Melones Lake down the western slope and combines with San Joaquin River. The San Joaquin River flows north emptying into the Sacramento Delta.

Natural storm water that falls on the plan area currently either percolates into the groundwater or evaporates. There are no studies to quantify percolation relative to evaporation on the site. Though there is a groundwater recharge area on the site, the exact boundary and characteristics of this recharge area is unknown. The remainder of the soils on the site do not percolate well and are characterized by a hardpan layer. Under current conditions, because the groundwater level in some areas is relatively high, some of the stormwater runs-off to adjacent properties during periods of high precipitation. When precipitation exceeds the land's capacity to absorb water, the run-off will sheet flow in a southwesterly direction. However, storm

water that lands on impervious surfaces (predominantly roads and driveways) flows in a southwesterly direction where local drainage ditches carry flows into existing drainage ditches in Oakdale and Claribel Roads. Neither Oakdale or Claribel Roads contain storm drain lines.

Storm drainage facilities in the vicinity of the plan area include a 36-inch storm water pipe line in Morrill Road and Roselle Avenue. The area of the plan area north of Morrill Road is served by a detention basin and the Morrill Road pipe line. Drainage is ultimately to the Stanislaus River via the Dobbins/Jackson pump station to the northeast of the plan area. The City of Riverbank provides storm drainage service to the plan area.

Routine irrigation and fertilization practices associated with agricultural operations (i.e., fertilizers, herbicides, and pesticides within the Stanislaus River's watershed), combined with pollutants typical of urban development, such as oil and grease, fuel constituents, heavy metals, organic chemicals, bacteria and sediments, may contribute towards the degradation of water quality in the Stanislaus River. During times of heavy precipitation, pollutant discharge into the Stanislaus River is intensified, especially during the first storm event of the season. It is not known exactly what the total quantity of discharge of these constituents to the river is under current conditions. However, the National Permit Discharge Elimination System (NPDES) has been established which requires the use of Best Available Control Technology (BACT) to limit pollutants. This program is implemented through the California Regional Water Quality Control Board (RWQCB).

Future applicants for development within the plan area will be required to submit a Notice of Intent (NOI) to the RWQCB. This permit will require development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that uses storm water "Best Management Practices" to control runoff, erosion and sedimentation from the site. The SWPPP has two major objectives: (1) to help identify the sources of sediments and other pollutants that affect the quality of storm water discharges; and (2) to describe and ensure the implementation of practices to reduce sediment and other pollutants in storm water discharges. The SWPPP must include Best Management Practices which address source reduction and, if necessary should include practices which require treatment. Integral to the NOI process is submittal of engineering designs.

Project Analysis

Standard of Significance. According to the CEQA Guidelines, Appendix G, a project will normally have significant effect on the environment if it will cause substantial flooding, erosion or siltation, or substantially degrade water quality.

Development carried out pursuant to the specific plan would increase the amount of impervious surfaces (buildings and roads) on the plan area. These impervious surfaces will increase the amount of storm water run-off. The increased storm water run-off is proposed to be discharged into the Stanislaus River through the city's storm drainage system. It is estimated that an additional 16.91 cubic feet per second, over the design storm event period of 48 hours, will be generated by the pro-

posed project. The capability of the city's storm drainage system to accommodate the proposed project is evaluated below.

In addition to increasing the amount of storm water run-off from the plan area, the placement of new impervious surfaces associated with future development would generate non-point source pollutants from newly established urban land uses. Non-point source refers to the aforementioned pollutants associated with urban development. In general, these pollutants would be transported by storm water via the storm drainage system into the Stanislaus River, and then into the San Joaquin River, which flows through the Sacramento Delta and eventually into the San Francisco Bay.

During construction, grading and vegetation removal would expose sediments to erosion and subsequent transportation of sediments to surface water features by storm water. The silt load generated by the construction of the proposed project could degrade water quality through the transportation of pollutants adhered to sediments. However, because the property is relatively flat, erosion is not considered a significant impact.

In addition, oxygen demanding substances, such as solid wastes, depress the dissolved oxygen levels in streams, rivers, and lakes. Some oil and grease compounds are toxic to aquatic organisms, as are several heavy metals which can bio-accumulate. These pollutants, if not filtered, could degrade water quality if transported to the nearby river by run-off or sediment transport.

Storm Drainage System

Storm drainage within the plan area is proposed to be conveyed out of the plan area through the use of detention basins located within the community parks and in three other locations along Claribel Road and a pumping system linked by a 24-inch pipe to the existing Dobbins/Jackson pump station. Storm water would then be discharged to the Stanislaus River through the city's existing storm water system.

Storm drainage generation estimates for the proposed project are included in Table 4. An estimated 16.91 additional cubic feet per second (cfs), during a 48-hour design storm event discharge, is expected to be generated at buildout of the plan area. It is projected that the proposed project will require a 67-acre-foot storm water storage facility.

Storm drainage collection will be accomplished by a series of detention basins, interconnected with a disposal and outlet system. Detention will be provided in open space land uses, including public parks. Criteria for design of park/detention basins will need to be established at a later date subject to the city's performance standards. The volume of storm-water will be accommodated by interconnecting six separate basins with a centrally located pump station (or stations if determined necessary) for ultimate disposal to the existing city drainage system and then to the Stanislaus River.

The City Engineer has recommended that the city limit the pond depth in facilities for joint use with parks to four feet of water depth (50 year design), one foot of free board and 5:1 maximum side slopes.

TABLE 4
Storm Water Generation

Land Use	Area (Acres)	Runoff Coefficient	Storm Volume (Acre-feet)
Rural to Low Density Residential	8.5	0.6	0.43
Low to Medium Density Residential	296.0	0.6	14.80
Low/Medium/High Density Residential	19.5	2.0	3.25
Medium to High Density Residential	10.0	2.0	1.67
Senior Housing	4.0	2.0	0.67
Village Commercial	2.0	2.0	0.33
Highway Commercial	20.0	2.0	3.33
Regional Commercial/Business Park	67.0	2.0	11.17
Elementary School/Neighborhood Park	21.0	0.6	1.05
Community Serving Park	9.0	0.6	0.45
Bicycle/Pedestrian Trail	25.0	0.6	1.25
Village Public/Quasi-Public	2.0	2.0	0.33
Modesto Irrigation District	17.0	2.0	2.83
Roads	139.0	2.0	23.17
Canals	47.0	0.6	2.35
Total	687.0		67.08
48 Hour Discharge (cfs)			16.91

Source: O'Dell Engineering

Though considered a potentially significant impact, through engineering design based on BACT and the applicable City of Riverbank storm drain design requirements, the anticipated storm water flow associated with build-out of the proposed project will be conveyed off-site with no resulting on- or off-site flooding. Therefore, potential flooding is not considered to be a significant impact with implementation of the storm water system.

Impacts and Mitigation Measures

Impact

Surface water run-off from any future residential, commercial, and roadway development within the plan area is expected to contain concentrations of a variety of pollutants, including oil and grease, organic nutrients, pesticides from landscaping, and heavy metals from road and parking area pavements. *This is considered to be a potentially significant environmental impact. However, implementation of Best*

Management Practices as required by the State Water Resources Board will reduce such impacts to a less than significant level. No additional mitigation is warranted.

Impact

The proposed project has the potential to flood on- and off-site properties. *This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.*

Mitigation

2. Crossroads Community developers shall prepare a construction implementation soils analysis and design for the detention basin areas, with the intent that they also be utilized as groundwater recharge facilities. This can be completed in a phased manner and shall be subject to the review and approval of the City Engineer prior to issuance of a building permit for any phase of the project.

2.3.2 Groundwater

This section is based on the *Stanislaus and Tuolumne River's Groundwater Basin Association, Draft Technical Memorandum No. 2*, prepared by Black and Veatch in January 1995. This memorandum is the second of two technical memorandums prepared for the Basin Association. This memorandum includes an in-depth description of the groundwater resource, including a groundwater balance, identification of major recharge and withdrawal zones, groundwater management issues, and existing and potential management operations. This report is summarized and incorporated herein by reference. This report is available for review at the City of Riverbank Planning Department and the city library. Technical Memorandum No.1, though not summarized in this EIR because it contains information not relevant to an overall understanding of the existing groundwater conditions, includes a general description of the study area, well construction and abandonment regulations, current groundwater monitoring operations and a summary of groundwater constituents in the study area. This report is incorporated herein by reference and is available for review at the City of Riverbank Planning Department and the city library. Also incorporated in this groundwater discussion and referenced herein, is information from the Stanislaus Area Association of Government's *Stanislaus Area Environmental Resources Management Element, Water* (February 1994). The Modesto Irrigation District (MID) Draft Groundwater Management Plan (GMP) of March 1996 was also reviewed. The GMP is based in part on the Black and Veatch report. The GMP is available for review at the City of Riverbank Planning Department, the city library and the MID office, and is herein incorporated by reference.

Environmental Setting

The valley is underlain by a broad structural trough, which extends for the majority of the valley floor from San Joaquin County to Kern County. The Sierra mountain range to the east and the coastal mountain ranges to the west provide its borders. Fresh groundwater is contained in unconsolidated continental deposits; specifically in the Tulare Formation of Pliocene and Pleistocene age, terrace deposits of the Pleistocene age, and alluvium and flood basin deposits of the Pleistocene and Holocene ages.

The groundwater resource relevant to the proposed project is the Modesto Groundwater Basin (MGB), which lies almost entirely within the County of Stanislaus. The Modesto Irrigation District lies completely within the MGB. The boundaries of the MGB coincide with the natural hydrologic features rather than political boundaries. The eastern boundary is based on the limit of water bearing deposits. The Stanislaus, Tuolumne and San Joaquin Rivers are useful physical boundaries, though they cannot be considered geologic barriers in terms of groundwater flow. Within the MGB are its aquifers.

Aquifer Characteristics

Aquifers. In Stanislaus County, groundwater is generally found in three types of formations:

- A body of unconfined and semi-confined water found in alluvial deposits, which is separated by the Corcoran Clay member of the Tulare Formation;
- A confined groundwater body which lies below the Corcoran Clay in alluvial and lake deposits; and
- A zone of saline connate water occurring in predominantly marine formations.

East of Highway 99, which is where the plan area is located, the Corcoran Clay layer is generally absent and groundwater is found in two bodies; the unconfined to semi-confined aquifer and the saline connate aquifer. These two aquifers vary in depth throughout the county.

The natural quality of groundwater is determined by the geologic formations through which it passes. The groundwater basin is essentially closed, with major recharge provided by subsurface inflow and by stream and rainfall infiltration. Water is extracted from the groundwater basin by pumping for various water uses.

Some chemicals are present in varying amounts throughout the groundwater basin. These include chloride, nitrate, arsenic, total dissolved solids, radionuclides, and other trace organics (MID 1996).

Groundwater Elevations and Flow Directions. The depth to groundwater surface in most of the study area ranges from less than 5 feet to over 100 feet. Unconfined groundwater in the study area generally flows southwesterly from the mountains to the east toward the valley trough, except in areas influenced by the rivers or by

urban pumping centers. Unconfined groundwater flow in the area west of the San Joaquin River moves southwest to northeast (MID 1996).

Groundwater depressions are apparent in the pumping centers in the Modesto urban area, the Riverbank and Oakdale area and near Salida. Recharge areas are located in the agricultural areas northeast and west of Modesto and also along some reaches of rivers. The proposed project area is identified in the Stanislaus Area Association of Governments (SAAG) report titled - *Stanislaus Area Environmental Resources Management Element, Water (1974)*.

Changes in groundwater levels also affect streamflow in the river bordering the MGB. This creates a phenomena known as "gaining" or "losing". A "losing" river or stream contains segments where water is lost to the groundwater where groundwater level elevations adjacent to the river or stream are significantly lower than the water surface elevation of the river or stream. These segments lose through seepage into the groundwater and thus provide recharge. In 1985, the Tuolumne River was recorded to be losing water at a five-mile section near Central Modesto. In 1994, this segment of the river had extended approximately five additional miles to the east. The entire portion of the Stanislaus River east of Highway 99 was apparently a losing stream (MID 1996)

A "gaining" river or stream is where there is a gain in the stream flow because of groundwater seepage. This occurs where groundwater level elevations near the river is significantly higher than the river water surface elevation. In 1985, apparent gaining reaches included the Stanislaus River east of the City of Riverbank, approximately seven miles of Stanislaus River upstream of the confluence with the San Joaquin River, the San Joaquin River and the Tuolumne River upstream of Empire. In 1994, apparent gaining reaches included the following rivers: approximately a nine-mile long segment of the Tuolumne River near Waterford, an approximately five mile segment of the Tuolumne River upstream of the confluence with the San Joaquin River, the San Joaquin River, and approximately seven miles of the Stanislaus River upstream of the San Joaquin confluence (ibid.).

Generalized groundwater flow is in a southwesterly to westerly direction, except in areas of flow toward depressions created by pumping centers (in and around urban areas) or away from mounds created by recharge areas. Recharge areas are located in the agricultural areas northeast and west of Modesto, and also along some reaches of rivers (Black and Veatch 1995).

Fluctuations in Groundwater Elevations. A drop in the surface water elevation is occurring and affects streamflow in the rivers bordering the area defined in the Black and Veatch report as the area in the Central Valley approximately 30 miles south of Stockton and 90 miles north of Fresno. Between 1984 and 1994, the water surface over most of the study area dropped at least 10 feet (ibid.). Areas near pumping centers experienced even greater reductions in water levels. The drop in water surface elevation also affects streamflow in the rivers bordering the study area. The site is in an area designated as a "withdrawal zone" (as opposed to "recharge zone") (ibid.).

Recharge. As stated previously, the MGB is part of a larger hydrologic system. The hydrologic system includes not only the groundwater system but also the agricultural and urban land surface systems. These latter systems comprise all of the processes that affect the deliver, consumption, and recharge of groundwater within agricultural and urban areas. Surface water diversions from the Tuolumne and Stanislaus Rivers, and the deep percolation of applied surface water to agricultural areas, comprise the major source of groundwater recharge for the basin.

Groundwater Balance

Groundwater Pumpage Amounts. Pumpage from agricultural irrigation and drainage wells, and municipal supply wells in the study area average approximately 160,000 acre-feet per year (afy) in the irrigation district from 1970 to 1990. Pumpage amounts have varied widely from year to year, peaking in drought years. An overall upward increase in annual groundwater use is observed, which roughly corresponds to the increase in pumpage from urban areas. Of the 160,000 afy average amount, approximately 44,000 afy was in the Modesto urban area, 7,000 afy from other smaller urban areas, and 109,000 afy from MID, Oakdale Irrigation District (OID) and privately owned irrigation and drainage wells. By 1994, pumpage in the Modesto urban area increase to around 60,000 afy and pumpage in the other smaller urban areas increased to approximately 8,000 afy, for a total municipal pumping rate of approximately 68,000 afy in the MGB area. These pumping amounts do not include the City of Oakdale, OID's small public water system, or numerous private domestic wells located throughout the MGB (MID 1996).

The Department of Water Resources published a report that indicated that this state agency estimated various components of the groundwater balance for the MGB. The components included:

Extractions	236,000 afy
Overdraft	15,000 afy
Perennial Yield	221,000 afy

Another balance calculation was prepared by Hydrologic Consultants, Inc. in 1993. Table 5 summarizes the average annual values for the various components of inflow and outflow that were used in modeling the area that approximates the MGB. The average annual water budget for 1952-1991 indicated an average overdraft of 2,300 afy.

Safe Yield. Safe yield is used to mean the amount of groundwater that can be extracted over an average hydrologic period that will result in no long term decline in water levels. This average hydrologic period includes the years from 1970 to 1990 (MID 1996).

Estimates of safe yield within the basin is elusive because a "safe yield" depends on the water-level elevations maintained throughout the basin, particularly near the large streams (Black and Veatch 1995). However, estimates of pumpage for the period 1970-1990 indicate an average of about 160,000 acre-feet per year in the basin. Of the 160,000 afy, approximately 44,000 afy was in the Modesto urban area,

7,000 afy from other smaller urban areas, and 109,000 afy from MID, OID and privately owned irrigation and drainage wells. This pumpage of 160,000 acre-feet per year was accompanied by an overdraft of approximately 3,000 acre-feet per year (ibid.). "Overdraft" indicates a long-term water-level decline in an area during an average hydrologic base period (ibid.). Furthermore, the effects of drought to determine the hydrologic base period are not included as these drought events are considered abnormal and not representative of long-term trends. Changes in storage in recent years have greatly exceeded the overdraft estimate because of the drought conditions (ibid.). It is important to note that the 3,000 acre-foot per year figure used in the Black and Veatch is a rough approximation of the overdraft over a 20 year period. It should be assumed by the reader that the overdraft of groundwater resources was greater during periods of drought when there was an increase in the amount of groundwater pumping.

TABLE 5

Summary of Groundwater Water Budget (1952-91)

Values Based on 40 Year Average	Acre-Feet per year
Inflow:	
Deep Percolation & Canal Seepage	226,000
Stream Bed Seepage	17,000
Modesto Reservoir Seepage	40,000
Groundwater Inflow	2,000
Total	285,000
Outflow:	
Irrigation and Drainage Well Pumping	100,000
Municipal Pumping	37,000
Discharge to Streams	150,000
Total	287,000
Difference:	
Change in Storage	-2,000

The safe yield of the study area will be determined for any selected groundwater level. Because there are perennial sources of recharge on virtually all sides of the MGB, a stability in groundwater levels would eventually be expected to occur. This assumes a constant pumping rate from year to year and from place to place within the study area. Once adequate recharge is intercepted by expanding cones of depression, stabilization of the water level will result. Intentional recharge could also

increase the safe yield of the basin, but this recharge would need to be practiced where the recharged water would not be lost to streamflow, or where shallow groundwater problems would not occur.

Overdraft and safe yield are not solely dependent on pumping and recharge activities within the MGB, but are also dependent on groundwater levels in adjacent areas. For instance, the Department of Water Resources show long term annual overdraft conditions in groundwater basins north and south of the MGB. North of the Stanislaus River, groundwater movement is generally from the southeast to the northwest flowing to the pumping depression located east of Stockton. South of the Tuolumne River, groundwater movement generally flows westward and southward towards the San Joaquin River, except in the area near the Eastside Water District where an average annual deficit of about 80,000 acre-feet has caused a cone of depression. These lower groundwater levels create head differentials that induce flow gradients from the MGB into these adjacent areas (MID 1996). The magnitude and extent of these flow patterns will require further evaluation (ibid.).

Existing and Projected Groundwater Demand

Existing and projected agricultural and municipal groundwater demands for the MID are indicated in Table 6:

TABLE 6

Existing and Projected Agricultural and Municipal Groundwater Demand

Year	Agricultural Demand (afy)	Municipal Demand (afy)	Total Groundwater Demand (afy)
1995	69,000	39,000	108,000
2000	94,000	53,000	147,000
2010	117,000	45,000	162,000
2020	147,000	75,000	222,000

Agricultural Demand. Irrigation water requirements are based on land use, crop types and irrigation practices. Other influences, such as state and federal laws that affect the use of water and water rights, are factors that ultimately determine the mix of surface water and groundwater supplies used to meet agricultural water requirements. Projections for MID, OID and private agricultural groundwater use could range from approximately 69,000 afy in 1995 to between 95,000 and 148,000 afy in 2020. The broad interval for projected agriculture groundwater use in 2020 represents uncertainty associated with regulations and cost on local water supplies and the adoption of changing irrigation technologies.

Urban Demand. Urban growth is a significant trend in the MGB. Urban land use is steadily displacing agricultural land and with this transition the need for potable water is also projected to increase in the future. Offsetting somewhat the use of groundwater resources is the Tuolumne River treatment plant which currently provides 33,600 afy of recharge. Further decreasing groundwater use will be expansion of the treatment plan capacity to 60,000 afy some time around the year 2005.

Projected Mass Balance. Given the current estimated safe yield of the MGB of approximately 160,000 (MID 1996), the projected groundwater extractions for agricultural and urban water supply could exceed this amount some time around 2010. Some estimates indicate that by 2020, the total groundwater demand for the basin could exceed 220,000 afy (MID 1996).

An important element of the hydrologic mass balance is the dynamic interaction between surface water and groundwater. The gaining and losing stream segments of the Stanislaus and Tuolumne Rivers and Dry Creek is directly related to groundwater levels and estimating projections of these interactions is beyond the scope of this simple mass balance because of the uncertainty of future groundwater levels. Nevertheless, this mass balance does indicate that the combination of projected agricultural and urban groundwater production could exceed the current safe yield estimate, which could ultimately result in an unplanned dewatering of the basin and the reduction in groundwater storage availability (ibid.).

Local Agency Formation Commission (LAFCo)

LAFCo has the responsibility to ensure that growth related to boundary change proposals in Stanislaus County and in the City of Riverbank does not outpace the service capacity of affected agencies or affect the availability of groundwater resources. LAFCo's criteria for future development is that an adequate supply of water be available to accommodate the water needs for all future development proposals prior to approval of each project. Cumulative impacts associated with groundwater is discussed in the cumulative section of this EIR (Section 3).

Groundwater Management Plan

Groundwater is a critical component of the water supply within the MID. According to the recent studies completed for the MID, groundwater is projected to be relied on more heavily as supplemental and by some users as a sole source of water supply for both agriculture and urban needs. As this groundwater production increases in the future, overall groundwater recharge is projected to decrease as a result of urban land use displacing agricultural lands. Based on this forecast, the MID has developed a goal which is "to optimize the use of groundwater for agricultural and potable requirements in such a way as to minimize the cost of the overall water supply and to improve the reliability of the water supply for all water users in the MID service area". Elements of the Groundwater Management Plan in support of the goal include continuation of existing and development of new management policies, potential groundwater yield enhancement programs, and the conjunctive use of surface and groundwater (MID 1996).

Groundwater management includes monitoring of groundwater production, storage and quality, administration and monitoring of well construction, and groundwater quality protection. Yield enhancement includes artificial recharge and recovery of contaminated groundwater. The conjunctive use of surface and groundwater is also important. This element is the combined use of surface and groundwater resources in such a way that the combined yield is greater than the yield that would occur from the sum of independent, uncoordinated operations of surface or groundwater resources. Conjunctive water use is commonly associated with storing water in groundwater basins for use during periods of drought or shortage (ibid.).

Implementing the GMP goal stated above requires a set of criteria from which to test the various elements of the GMP. The GMP must:

- Meet supplemental and future water demands;
- Protect or improve the existing groundwater quality;
- Have a minimum cost; and
- Be easy to implement

The groundwater management plan will be an integral part of satisfying the water demands in the MID service area. Since surface water availability is subject to hydrologic variations from year to year, with shortages occurring during dry years, groundwater can be managed to minimize both the peak seasonal demand for surface water supplies and the need for surface water during dry years. Optimizing the MID conjunctive water use capabilities as a key element of groundwater management reveals a need for coordination with facility improvements being addressed in the MID's Irrigation Master Plan. If properly managed, the MGB should provide a reliable supplemental water supply of a suitable quality for all groundwater users (ibid.).

Historical and Current Water Use of the site

Approximately 633 acres of the plan area is south of Morrill Road, which represents 48 of the 52 parcels in the plan area. The dominant historic agricultural use on the acreage south of Morrill Road is pasture land, with orchards serving a secondary role. The balance of the plan area, 54 acres located north of Morrill Road, consists of the recently developed 92-unit Stonebridge subdivision and lots 1 through 4 (refer to Figure 3). Lots 1 through 4 comprise a total of 12.64 acres. Approximately 27 single-family housing units currently exist in the plan area south of Morrill Road (no dwelling units currently exist in lots 1 through 4). Most of the 27 units occur on the smaller lots in the plan area (3 acre to 15 acre parcels).

The agricultural land and residential units south of Morrill Road derive water from both private wells within the plan area and the MID, which runs through the plan area. Some property owners will use one or the other source for irrigation and some property owners will use both sources for irrigation. The existing 27 dwelling units obtain their potable water supply from wells. The following water balance discussion pertains to the 633 acres south of Morrill Road only. The area north of Morrill Road is not included in the analysis because the existing Stonebridge subdivision already uses water which will not change the water balance analysis and lots 1 through 4 are

not served by the MID and contain no residential structures. It is assumed that under current conditions, water is not applied to these four lots.

Based on MID's 1995 irrigation season water delivery information for the plan area, the MID delivered 1,015 afy of surface and groundwater to 28 of the 48 properties in the plan area (Ed Pattison, pers. com., July 23, 1996). The remaining 20 properties south of Morrill Road use the local groundwater resource via on-site wells. One of the 20 properties uses groundwater entirely from an on-site well to irrigate 47.25 acres of orchard. Irrigated pastures and orchards use an annual average of approximately 4.25 and 3.00 acre-feet of water per acre per year, respectively (Ed Pattison, pers. com., July 18, 1996).

Based on each of the existing 27 dwelling units using one-acre foot per year of groundwater and the orchard property using 142 afy of groundwater via an on-site well, the total groundwater use in the plan area is 1,184 afy ($27 + 142 + 1,015 = 1,184$ afy). This water use is primarily during the late spring, summer and fall. Additional water may be used in the plan area for pasture irrigation through use of plan area wells. This could increase the total existing groundwater use. However, if additional irrigation occurs through use of well water, this is expected to be negligible, because it is cheaper for property owners to use MID water than it is to pay for well water. Well water costs more because of the cost of the electricity to pump the well water (Ed Pattison, pers. com., August 29, 1996).

Project Analysis

Standard of Significance. According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will substantially degrade or deplete groundwater resources.

A water balance is used to assess the impact of future development within the plan area on the groundwater basin. A water balance identifies the past and present water demand on the plan area and compares this water use with the water demand to be generated by future development within the plan area.

Table 7 presents an estimate of the amount of water required to serve the proposed project. The water generation factors are based on values from similar communities in the San Joaquin Valley. The daily project requirement is determined by multiplying the generation factor by the number of acres to be devoted to each land use.

Based on this information, future development on the plan area is anticipated to generate a water demand of approximately 2,007 mgd (2,247 AF/Y). This represents an increase of 1,063 AF/Y relative to existing conditions.

In addition, though there is a water recharge area on the site as described in the Stanislaus Area Association of Governments report - *Stanislaus Area Environmental Resources Management Element, Water* (1974), because of the sandstone lens capping the water table in various parts of the site and the lack of specific data on the exact boundaries and characteristics of the recharge area, this EIR assumes there is no percolation occurring at the site that could be integrated into a net water demand calculation. It is anticipated that the proposed project would use more water than is currently used on the plan area, though it is a negligible difference. Though

basin wide overdraft does occur (approximately 3,000 afy), the GMP is currently addressing this issue through implementation of its GMP management policy elements. *This forecasted increase in groundwater use is not considered to be a significant impact. No mitigation measures are necessary.*

TABLE 7
Crossroads Community Water Demand Estimates

Land Use	Acres	Water Use Factor (gal/day/ac)	Flow (MGD)
Rural to Low Density Residential	8.5	3000	0.026
Low to Medium Density Residential	296.0	4500	1.332
Low/Medium/High Density Residential	19.5	5000	0.098
Medium to High Density Residential	10.0	5000	0.050
Senior Housing	4.0	3000	0.012
Village Commercial	2.0	3000	0.006
Highway Commercial	20.0	3000	0.060
Regional Commercial/Business Park	67.0	3000	0.201
Elementary School/Neighborhood Park	21.0	3000	0.063
Community Serving Park	9.0	3000	0.027
Bicycle/Pedestrian Trail	25.0	3000	0.075
Village Public/Quasi-Public	2.0	3000	0.006
MID	17.0	3000	0.051
Roads	139.0	0	0.000
Canals	47.0	0	0.000
Total	687.0		2.007

Source: O'Dell Engineering

2.4 Biological Resources

This section is based on the Crossroads Community Specific Plan Biotic Assessment prepared by Bryan Mori Biological Consulting Services in June 1991 and a supplemental biotic assessment prepared by the same firm in June 1995. These reports are summarized herein and included in Appendix B of this EIR.

Environmental Setting

The primary agricultural use on the plan area is irrigated pasture. Other land uses include orchards, cultivated fields, dairy feed lots, rural single-family residences, and the Hetch Hetchy Water and Power (HHWP) and the MID easements.

The plan area is a mosaic of irrigated and non-irrigated pastures, cultivated fields, orchards, ruderal vegetation, and areas supporting surface water. The distribution of vegetation communities on the plan area is subject to change due to shifts in land uses, such as pasture and cultivation. Due to agricultural operations and residential development that have occurred over the last 100 years, habitat areas within the plan area have been greatly reduced, resulting in a landscape atypical of former valley floor habitats.

Of the 120 plants species identified during the study, more than 71 percent (85 species) were non-native, and the majority of native plant species encountered are widely distributed in the state, either as wetland associates or as opportunistic ruderal types ("weeds"). Most of the wildlife species observed and predicted to occur in the plan area are typically associated with grasslands and/or disturbed areas, and are expected to be found throughout the different vegetation communities on the site.

The habitats on the proposed plan area are qualitatively described below, focusing on representative plant and wildlife species. Figure 8 indicates the locations of the biological resources discussed in the section.

Pastures

Pastures are the predominant use on the plan area. Plant species vary from pasture to pasture based on irrigation frequency, grazing and mowing, but the dominant plant species are dallis grass, knotgrass, Bermuda grass, dropseed, alfalfa and plantain. Lower-lying portions of irrigated fields are dominated by hydrophitic species such as yellow waterweed, knotweed and, in one field, spikerush.

The wildlife value of the pastures vary depending on amount of irrigation and time of year. In the southeastern corner of the site, crayfish, bullfrogs and mosquito fish were observed in a seasonal pond. These species provide forage for the great egret and snowy egret. Species expected to occur at the site include California meadow vole, western harvest mouse and black tailed hare. The California ground squirrel and the Botta's pocket gopher were observed mostly in drier fields or along berms and raised areas along fence-lines. Other animal species are expected to occur in the pastures and are listed in the report included in Appendix B of this EIR.

Potential Wetlands

During the November 1994 reconnaissance of the plan area and a subsequent wetlands assessment conducted during April 1995 using the Corps of Engineers Wetland Delineation Manual, it was determined that portions of the irrigated pastures support surface water or highly saturated soils. Plants growing in these areas were predominantly hydrophitic (water loving). Based on soil samples, the hydrophitic plant species composition, estimated percent coverage and the observation of surface water, and/or saturated soil conditions. These areas were determined to be potential jurisdictional wetlands. Figure 8 indicates the location of these areas.

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (COE) is required to issue permits for discharge of dredge or placement of fill into waters of the U.S, including adjacent wetlands. Wetlands as defined in the Act are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." The COE requires three parameters to be met for an area to be determined as a jurisdictional wetland: hydric soils, inundation/saturation for at least 14 consecutive days during a normal wet season and the presence of hydrophytic plant species.

In addition, as a result of the heavy rains that occurred during the period between the November 1994 site visit and the April 1995 site visit, additional areas on the plan area were found to contain other potential wetlands. These areas are depicted in Figure 8 and are designated "Potential Wetlands (1-4)". Because of the uncertainty of the extent of potential wetlands on the plan area at this time, future development on portions of the plan area shown in Figure 8 to contain potential wetlands will be required to conduct a wetlands delineation as part of future applications for development.

Cultivated Fields

Cultivated fields include corn and fields plowed for hay production. Dallis grass and knotgrass are the principal plant species observed in the hayfields.

Orchard and Landscape Trees

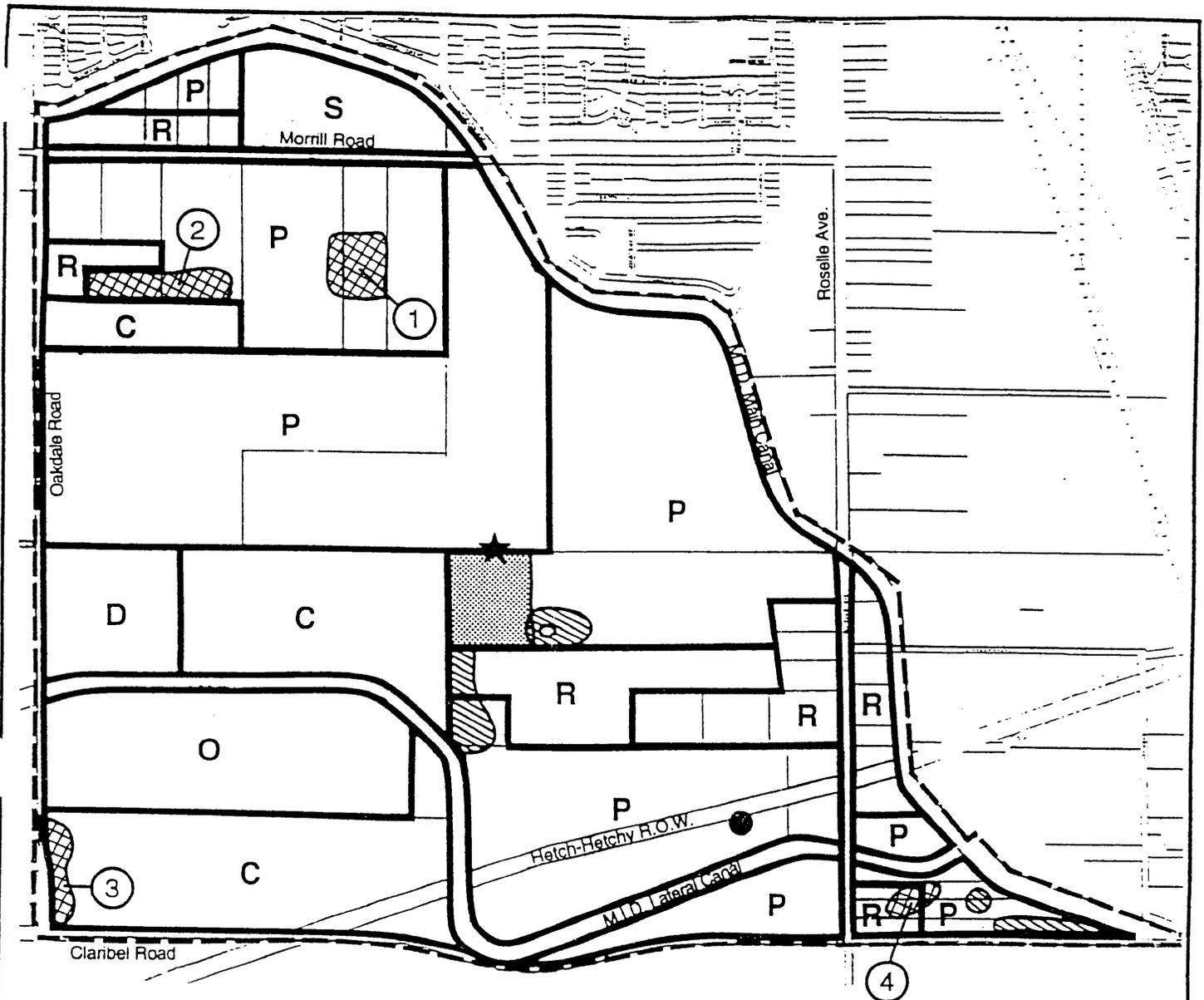
Almond and walnut orchards occur on portions of the plan area. A variety of landscape trees occur along streets and near residential units. Due to the lack of an understory in the orchard, habitat value for wildlife is considered marginal. Though many species are expected to occur in the orchard area and in areas with landscape trees, such as the mourning dove, western kingbird, brewer's blackbird and loggerhead shrike, American crow, yellow-billed magpie, Virginia opossum and raccoon, only the red-tailed hawk was observed during the site visit. The hawk was observed nesting in a eucalyptus tree on the site on April 19, 1995.

Ruderal

Plant species in this area of the site consists predominantly of non-native invasive species typical of disturbed areas (e.g. roadsides) and similar to those located in pastures. Animal species associated with pastures are also associated with ruderal areas.

Species of Special Concern

Based on a November 1994 assessment and a focused rare plant survey conducted on May 28, 1995, no plant species of special concern were found on the site. However, despite years of agricultural operations, the site provides habitat for sensitive wildlife. Based on a literature review, review of the California Natural Diversity



- C Cultivated Field
- D Dairy
- O Orchard
- P Pasture
- R Ruderal
- S Subdivision

-  Potential Jurisdictional Wetland
-  Potential Wetland (1 - 4)
-  Potential Burrowing Owl Wintering Habitat
-  Burrowing Owl Observation (11/2/94)
-  Red-tailed Hawk Nest



No Scale

Source: Bryan Mori Biological Consulting Services



A Land Use Planning and Design Firm

City of Riverbank
 Crossroads Community Specific Plan EIR
Biological Resources

Figure
8

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Data Base (CNDDDB), consultations with field specialists and field survey, seven sensitive wildlife species were identified as known or potential significant users of the plan area or immediate vicinity. The seven species include the western spadefoot toad, white-tailed kite, Swainson's hawk, northern harrier, burrowing owl, loggerhead shrike and horned lark. All were observed in the plan area except the spadefoot toad and Swainson's hawk.

Western Spadefoot Toad. The western spadefoot toad is a state species of special concern. The toad primarily occurs in valley floor and foothill grasslands, but is also known to exist in orchards, vineyards and pastures. One reason for this species' decline in California includes loss of habitat from urbanization and intensive agriculture.

A focused survey for the toad was conducted in March and April 1995, the time period when larva would be present if the species occurred on the plan area (Mori 1995). Survey conditions were ideal for the toad because of the heavy rains that occurred in 1995. No western spadefoot toads were observed during the survey.

Swainson's Hawk. The Swainson's hawk is listed as a Threatened species under the California Endangered Species Act (Chpt. 1.5 Fish and Game Code) (CDFG 1990). The hawks are long distance migrants, breeding in northwestern Canada, western U.S., and Mexico, and wintering in South America. Formerly abundant and widespread in California, the species' California distribution now consists of two populations: one in northeastern California in Modoc, Siskiyou and Lassen Counties, and the other in the Central Valley, primarily in the southern Sacramento and northern San Joaquin valleys.

Nesting habitat consists of riparian trees, oak groves, and roadside trees adjacent to and within about 18 miles of foraging habitat; cottonwoods and valley oaks are the most frequently used nest trees in the Central Valley. California vole and ground squirrels are preferred prey for Swainson's hawks. Nesting birds of the Central Valley arrive from wintering grounds in March, with the young fledging by the end of July.

This species is threatened by conversion of grasslands to crops, the spread of urban development into grasslands and agricultural lands, reductions of oak woodlands in the Central Valley, pesticide residues, and destruction of wintering habitat in South America. It is estimated that the California breeding population declined 91 percent from its historic population size estimated at up to 17,000 breeding pairs down to 375 pairs in 1979.

A pair of Swainson's hawks was observed displaying courtship behavior along the Stanislaus River near the intersection of McHenry Road and River Road in Stanislaus County on April 19, 1995 (Mori 1995). One Swainson's Hawk was observed breaking a branch off of a tree. After a further review of the area where the hawks were observed by the biologist, a nest platform was observed. The hawks were not seen to enter or exit the nest during the survey. This nest can be considered a potential nest site and is within approximately seven miles of the

planning area. This information has been submitted by the biologist to the California Natural Diversity Data Base (CNDDDB).

There are no other known nest sites within 10 miles of the planning area. Most of the Swainson's hawk nests in the area have been identified near the confluence of the San Joaquin and Stanislaus Rivers, approximately 16 miles west of the planning area (Jones and Stokes 1990, Jim Estep, pers. com., June 20, 1996). This area contains ideal foraging habitat for the hawk. The habitat east of Ripon and west of the foothills (including the planning area) is not ideally suited for hawk foraging, due to the preponderance of orchards and vineyards (ibid.).

Burrowing Owl. One burrowing owl was observed on the plan area near the central portion of the site on November 2, 1994. Although potential roosting habitat occurs on the field where the burrowing owl was observed (i.e., ground squirrel burrows were present in moderate numbers), the plan area probably does not currently support a breeding population of this species. The evidence that leads to this conclusion includes the species' pattern of distribution in the region, the general lack of ground squirrel burrows in the plan area, and the absence of owl signs (e.g., pellets, excrement) at observed ground squirrel burrows. The observed owl may likely have been a transient or wintering migrant. Figure 8 shows the burrowing owl observation location and potential owl wintering habitat.

Northern Harrier. The northern harrier is a state species of special concern (breeding population). Northern harriers range throughout the state from the coast up to elevation 5,700 feet in the Sierras. The Harriers are primarily birds of open country and are seldom found in wooded habitats. Northern harriers nest in marsh habitats with tall emergent vegetation and in tall grasslands, constructing their nests on the ground. Fallow fields and grain fields are also used in areas where other suitable habitat is lacking. This species is threatened by destruction of marsh habitats, the spread of urban and agricultural development into grasslands and overgrazing by livestock.

One female harrier was observed foraging over the fields during the Nov. 2, 1994 survey. Pastures on the plan area that support tall vegetation may provide breeding habitat for this species. Hayfields may also provide nesting habitat depending on when the crops are mowed. Mortality to nesting harriers due to mowing or plowing in grain fields has been documented in the Central Valley (Mori 1995).

White-Tailed Kite. The white-tailed kite is designated a "fully protected" species by CDFG. Once considered endangered in California primarily due to shootings, kite populations have since increased significantly. Agricultural development, which has increased the vole population in the Central Valley, has contributed to this species' comeback (USFWS 1987). White-tailed kites in oak savanna and agricultural habitats where occasional trees occur. Kites nest in trees located near foraging habitat (CDFG 1986).

Three kites were observed during the Nov. 2, 1994 survey, one foraging on-site and two roosting immediately south of the site. The landscape trees, and possibly the orchard trees, in the plan area provide potential nesting habitat for this species. Foraging habitat occurs throughout the plan area.

Loggerhead Shrike. The loggerhead shrike is a Candidate 2 species for federal listing as Threatened or Endangered. Loggerhead shrikes occur in grasslands and agricultural areas with scattered trees and shrubs. In the San Joaquin and Stanislaus County area, shrikes are fairly common but have declined by approximately 50 percent over the last 15 years (Mori 1995).

A loggerhead shrike was observed in the central portion of the plan area. The orchard and landscape trees throughout the plan area provide potential nest sites. The shrike may occur as a nesting species on the site.

Horned Lark. The California subspecies of the horned lark is a Candidate 2 species for federal listing as federally threatened or endangered. This species nests in shore-grass prairies on level to moderate relief, mountain meadows, open coastal plains, active and fallow grain fields, bare fields and alkali flats. Agricultural and urban development has reduced this species' habitat, especially in the Central Valley. In the San Joaquin Valley, horned larks have been observed to nest on bare fallow fields and in grain fields where suitable grasslands are lacking (Mori 1995).

Several horned larks were observed throughout the plan area during the Nov. 2, 1994 survey. Based on the habitat requirements of this species, bare to sparsely vegetated fields in the plan area could provide nesting habitat. Suitable nesting sites could include grazed pastures, alfalfa fields and plowed fallow fields, depending on irrigation and harvesting practices.

Project Analysis

Standard of Significance. According to the CEQA Guidelines, Appendix G, a project will normally have significant effect on the environment if it will substantially affect a rare or endangered species of animal or plant, or the habitat of the species.

Impacts and Mitigation Measures

Impact

The project may result in the fill and/or degradation of potential jurisdictional wetlands. *This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.*

The policy of the COE is to permit no net loss of functions and values of wetlands. Under Section 404 of the Clean Water Act, the COE is required to issue permits for discharge of dredge or placement of fill into waters of the U.S., including adjacent wetlands. In the event the wetlands are determined to be jurisdictional wetlands, conversion of these areas without the required permits obtained from the COE prior to project approval would be in violation of Section 404.

Mitigation

3. Crossroads Community developers whose projects contain or may affect potential wetlands 1-4 depicted in Figure 8 shall prepare additional wetlands assessments. The wetlands assessments shall be conducted by a qualified wetlands specialist to determine the presence or absence of potential jurisdictional wetlands on the plan area. These additional assessments are subject to review of the city prior to any development activity in these areas (see Figure 8).
4. Potential jurisdictional wetlands as depicted on Figure 8, shall be reviewed by the COE to determine wetland status prior to city approval of a tentative subdivision map for any individual development project. Depending on the total wetlands acreage, the project would require either an Individual 404 Permit or a Nationwide Permit. For wetlands totaling under 10 acres, a pre-discharge notification would need to be submitted to the COE to determine if the project qualifies under a Nationwide Permit; mitigation may or may not be required under this scenario. For areas totaling 10 acres or greater, the project applicant must apply for an Individual Permit, which requires the attachment of a mitigation monitoring plan plus an analysis of alternative site designs. Mitigation measures may include avoiding wetlands; minimizing impacts to wetlands plus on-or off-site replacement at a maximum ratio of 3:1; or off-site acquisition of "in kind" wetlands at a minimum 1:1 ratio. In the event that an Individual 404 permit is required, mitigation measures must address avoidance as an alternative in order for the permit application to be considered by the COE.

Impact

Construction carried out pursuant to the specific plan may result in the mortality of wintering burrowing owls. *This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.*

Mitigation

5. Pre-construction surveys for active burrowing owl dens in areas identified in Figure 8 shall be required of proposed future projects in or adjacent to the area of potential wintering habitat identified in this study. Standard procedures shall be followed for the survey, in coordination with the CDFG, subject to review and approval of the City prior to issuance of a grading or building permit. If present, the owls shall be passively relocated to off-site habitat contiguous with the plan area, subject to the determination of the wildlife biologist. Relocation of the owls shall be performed by a qualified wildlife biologist, in coordination with CDFG. In the event that burrowing owls are determined to be nesting, the owls shall be relocated after a wildlife biologist has determined that the young have fledged. Passive relocation involves installing one-way doors in burrow entrances. The relocation shall be moni-

tored for one week to confirm use of alternate burrows. Original burrows shall be filled to prevent reuse.

Impact

Tree removal and/or grading activities of projects proposed in the plan area could result in incremental loss of nesting habitat, and possibly the loss of young or eggs of white-shouldered kite, red-tailed hawk, northern harrier, loggerhead shrike and horned lark due to incidental take or indirect impacts near nest sites. *This is considered a potential significant impact. However, implementation of the following mitigation will reduce the impact to a less-than-significant level.*

Mitigation

6. Crossroads Community developers shall retain a qualified wildlife biologist to conduct nest surveys for the white-shouldered kite, red-tailed hawk, northern harrier, loggerhead shrike and horned lark prior to construction activities for those projects scheduled to begin during breeding season (March 15 to July 31). If nests are found and eggs or nestlings are present, construction activity must be delayed until after the young have fledged, subject to the determination of the wildlife biologist. If no nests are found, construction can begin immediately.

Impact

The project may impact the Swainson's hawk, a threatened species under the CESA. Implementation of the project would result in the conversion of approximately 586 acres of pasture and approximately 47 acres of orchard to urban use (acreage based on Figure 3). These areas, though not highest quality foraging habitat, are considered suitable foraging habitat for the Swainson's hawk and are located within seven miles of a potential Swainson's hawk nest site. No other nest sites are known to exist within ten miles of the plan area.

The California Department of Fish and Game recommends mitigation for the loss of Swainson's hawk foraging habitat located within ten miles of nest sites. However, no program for foraging habitat mitigation has been adopted to date by the City, state or any regional agency.

Development of the project site would result in a less than one percent reduction in available foraging habitat for Swainson's hawks occupying one potential nest site, assuming a foraging radius of ten miles. *This incremental reduction in available foraging habitat is not considered significant on a project specific basis. No project specific mitigation is warranted.* Development of the plan area will contribute to the continued loss of foraging habitat on a regional and cumulative basis. Cumulative impacts relating to the Swainson's hawk are addressed in section 3.3.

2.5 Traffic and Circulation

This section is based on the Traffic Impact Analysis for the Crossroads Community Specific Plan prepared by K.D. Anderson in November 1994. This report is summarized herein and is included in Appendix C of this EIR.

Environmental Setting

The City of Riverbank is located approximately five miles east of State Route 99 and three miles north of Modesto. Regional access to the area is provided by State Routes 99, 108 and 219.

Existing traffic conditions have been evaluated through observation of current weekday A.M. and P.M. peak hour intersections characteristics and through review of existing traffic count information available for the area. Only intersection capacities and operating Levels of Service (LOS) have been calculated in this analysis because the intersections are the most critical and potential weak points of the transportation system.

Existing Street Segments

The following streets are located within the study area:

- State Route 108/Patterson Road
- Crawford Road
- Coffee Road
- Oakdale Road
- Claus Road
- Morrill Road
- Claribel Road (State Route 219)
- Sylvan Ave.
- Roselle Road
- Terminal Ave./Santa Fe Ave.

Each of these street segments has an integral function in the existing circulation system. If one segment fails to operate efficiently, other intersecting street segments will be affected. Therefore, the city must consider effects of development on the circulation system when planning for the future. The following provides a description of each of the streets.

State Route 108/Patterson Road. Between McHenry Avenue and east of Roselle Avenue, Patterson Road and State Route 108 share the same right-of-way. At this point, State Route 108 turns left and Patterson Road continues east to County Road J14/Albers Road. Posted speed limits on both roadways range between 30 and 45 miles per hour. Patterson Road is designated as a truck route along its entire length within the city, as is Route 108 west of Mesa Drive.

State Route 108 is a state highway, oriented in an east-west direction, connecting the City of Modesto with the towns of Oakdale and Sonora to the east. This roadway varies in width from two- to four-lanes along its entire length. Through the city, State Route 108 is a two-lane, east-west roadway with separate right- and left-turn lanes at key intersections.

State Route 108 carries between 1,000 and 1,600 vehicles per hour during the morning peak hour and between 1,000 and 1,450 vehicles per hour during the evening peak hour. Patterson Road east of Roselle Avenue carries 650 vehicles during the morning peak hour and 900 vehicles per hour during the evening peak hour. This volume drops to 650 vehicles during the morning peak hour east of Claus Road and 350 vehicles per hour during the evening peak hour.

Morrill Road. Morrill Road is a two-lane, east-west roadway providing access to Coffee Road, Oakdale Road and Roselle Avenue. The speed limit is 25 to 35 miles per hour. This residential roadway carries less than 50 vehicles per hour during both the morning and the evening peak hour.

Claribel Road. Claribel Road is a rural, high-speed, two-lane arterial that provides access to State Route 108 and State Route 219 in the west and County Road J14/Albers Road, in the west. East of McHenry Avenue, Claribel Road continues as State Route 219 and is renamed Kiernan Avenue. The posted speed limit on Claribel Road is 55 miles per hour. Currently, Claribel Road carries 500 to 650 vehicles per hour during the morning peak hour and 700 to 900 vehicles per hour during the evening peak hour.

Claribel Road is identified as a four lane expressway in the future with improvements outlined in the Inter-City fee program.

Crawford Road. Crawford Road is a two-lane, east-west roadway providing access between Coffee Road and Oakdale Road. The speed limit is 25 miles per hour. This residential roadway carries less than 50 vehicles per hour during both the morning and the evening peak hour.

Sylvan Avenue. Sylvan Avenue is a two-lane, east-west arterial from its origin at Claus Road in the east to Oakdale Road in the west. East of Oakdale Road, Sylvan Avenue widens to four lanes with a center two-way left-turn lane. West of McHenry Avenue/Route 108, Sylvan Avenue is renamed Standiford Avenue as it extends to State Route 99 in the west. Currently, Sylvan Avenue carries 450 to 1,950 vehicles per hour during the morning peak hour and 500 to 2,100 vehicles per hour during the evening peak hour.

Coffee Road. Coffee Road is a north-south arterial extending between Patterson Road in the north and Scenic Drive in Modesto to the south. In the vicinity of the plan area, Coffee Road is two lanes, but widens to four lanes in the vicinity of Sylvan Road. Peak hour traffic volumes on Coffee Road vary widely. During the morning peak hour traffic on Coffee Road ranges from 250 to 1,660 vehicles per hour while the evening peak hour traffic volumes range from 250 to 1,450 vehicles per hour.

Oakdale Road. Oakdale Road is a two-lane, north-south arterial with limited shoulders, curbs and sidewalks. There are no posted speed limits. Oakdale Road is designated as a truck route between Patterson Road to the north and the MID Canal to the south. It currently carries approximately 500 to 700 vehicles during the morning peak hour and 550 to 800 vehicles during the evening peak hour.

Roselle Avenue. Roselle Avenue is a two-lane, north-south roadway that provides access to the Amtrak station and fronting residences. There are limited curbs and sidewalks and the posted speed limits is 40 miles per hour. Roselle Avenue is designated as a truck route between the MID canal to the south and its terminus at Sierra Avenue to the north. It currently carries 200 to 300 vehicles per hour north of Claribel Road and 350 vehicles per hour south of Claribel Road during the morning peak hour. During the evening peak hour, Roselle Avenue carries 250 to 400 vehicles per hour north of Claribel Road and 400 vehicles per hour south of Claribel Road.

Santa Fe Avenue/Terminal Way. Santa Fe Avenue is a two-lane high-speed collector that parallels the northeast side of the Southern Pacific Transportation Company railroad tracks. North of Claus Road, Santa Fe Road is named Terminal Way. Terminal Way is designated as a truck route between Claribel Road in the south and Townsend Avenue in the north. Santa Fe Avenue/Terminal Way currently carries between 100 and 150 vehicles per hour during the morning peak hour and between 50 to 200 vehicles per hour during the evening peak hour.

Claus Road. Claus Road is a wide, two-lane, north-south arterial intersecting State Route 108 and providing access to the City of Modesto. Posted speeds are 35 to 45 miles per hour and turning lanes are provided at critical intersections. Claus Road is designated as a truck route south of Route 108 along its entire length. It currently carries 700 vehicles per hour south of State Route 108, 900 vehicles per hour north of Claribel Road, and 1,050 vehicles per hour south of Claribel Road during the morning peak hour. During the evening peak hour traffic two-way volumes on Claus Road range from 800 vehicles per hour north of Claribel Road to 700 vehicles per hour south of Claribel Road.

Existing Intersections

Eighteen (18) intersections have been evaluated in this analysis to quantify traffic impacts to the circulation study area resulting from build-out of the plan area under the proposed general plan and zoning designations. These include the following:

- Claus Road/Route 108
- Claus Road/Patterson Road
- Claus Road/Claribel Road
- Claus Road/Santa Fe Avenue
- Roselle Avenue/Patterson Road
- Roselle Avenue/Morrill Road
- Roselle Avenue/Crawford Road (Future)
- Roselle Avenue/Claribel Road
- Roselle Avenue/Sylvan Avenue
- Oakdale Road/Patterson Road
- Oakdale Road/Morrill Road
- Oakdale Road/Crawford Road
- Oakdale Road/Claribel Road
- Oakdale Road/Sylvan Avenue
- Coffee Road/Patterson Road
- Coffee Road/Claribel Road
- Coffee Road/Sylvan Avenue
- McHenry Avenue/Claribel Road

The circulation study area includes several key intersections that were identified by Stanislaus County Public Works and Caltrans in response to the Notice of Preparation. Four of the eighteen study intersections are under Caltrans jurisdiction.

The Roselle Avenue/Crawford Road intersection currently does not exist but will be constructed as part of the project when Crawford Road is extended from Oakdale Road to Roselle Avenue.

Existing Traffic Volumes

Current intersection traffic counts were taken from the *Traffic Circulation/Impact Analysis* (TJKM Transportation Consultants 1991). The information is summarized herein. The report is available at the City Hall. New weekday morning and evening peak hour counts were conducted at four of the study intersections by K.D. Anderson during November 1994. These intersections are:

- McHenry Avenue/Claribel Road;
- Oakdale Road/Sylvan Avenue;
- Roselle Avenue/Sylvan Avenue; and
- Claus Road/Santa Fe Avenue.

Intersection counts were conducted from 7:00-9:00 A.M. and 4:00-6:00 P.M. to isolate the peak traffic intervals and one hour periods. Figure 9 displays existing A.M. and P.M. peak hour turning movements at each study intersection.

Level of Service—Methodology

To assess the quality of existing traffic conditions, LOS was calculated at study area intersections. The LOS is a qualitative measure of traffic operating conditions and is typically measured at intersections because traffic volume is greater at these locations than at any other point on roadway segments.

LOS can vary depending on a number of roadway factors including lane widths, intersection spacing, roadway grades, roadway curvature and characteristics of traffic using the street segment. These characteristics can include the percentage of trucks and heavy vehicles, pedestrian conflicts, bicycle conflicts, on-street parking, availability and turnover rates, etc. In general, LOS is determined by comparing the traffic volumes of two roadway segments and theorizing the capacity of each approach based on the width of the road, parking, and number of left turns. The V/C ratio is calculated based on this theory and intersection LOS is determined. LOS serves as a guideline to indicate whether roadway improvements should be considered.

The LOS classification system ranks street and highway operations based on traffic volumes and conditions. Road segments and intersections are assigned an LOS value from A to F; LOS A indicates little or no congestion and LOS F indicates severe congestion and queuing. Intermediate LOS values represent incremental levels of congestion and delay between these two extremes.

There are three different types of intersections evaluated in the circulation study area: signalized intersections, unsignalized intersections and intersections controlled by a four-way stop. Following is a brief description of each.

Signalized Intersections. Currently, four of the study intersections are signalized: Oakdale Road/Patterson Road, Oakdale Road/Sylvan Avenue, Coffee Road/ Sylvan Avenue, and McHenry Avenue/Claribel Road. Procedures used for calculating LOS at signalized intersections utilize a "critical movement" analysis as presented in Transportation Research Board "Circular 212." Table 8 provides definitions for each level of service based on the volume-to-capacity ratio (V/C), speed, maneuverability and delay for signalized intersections.

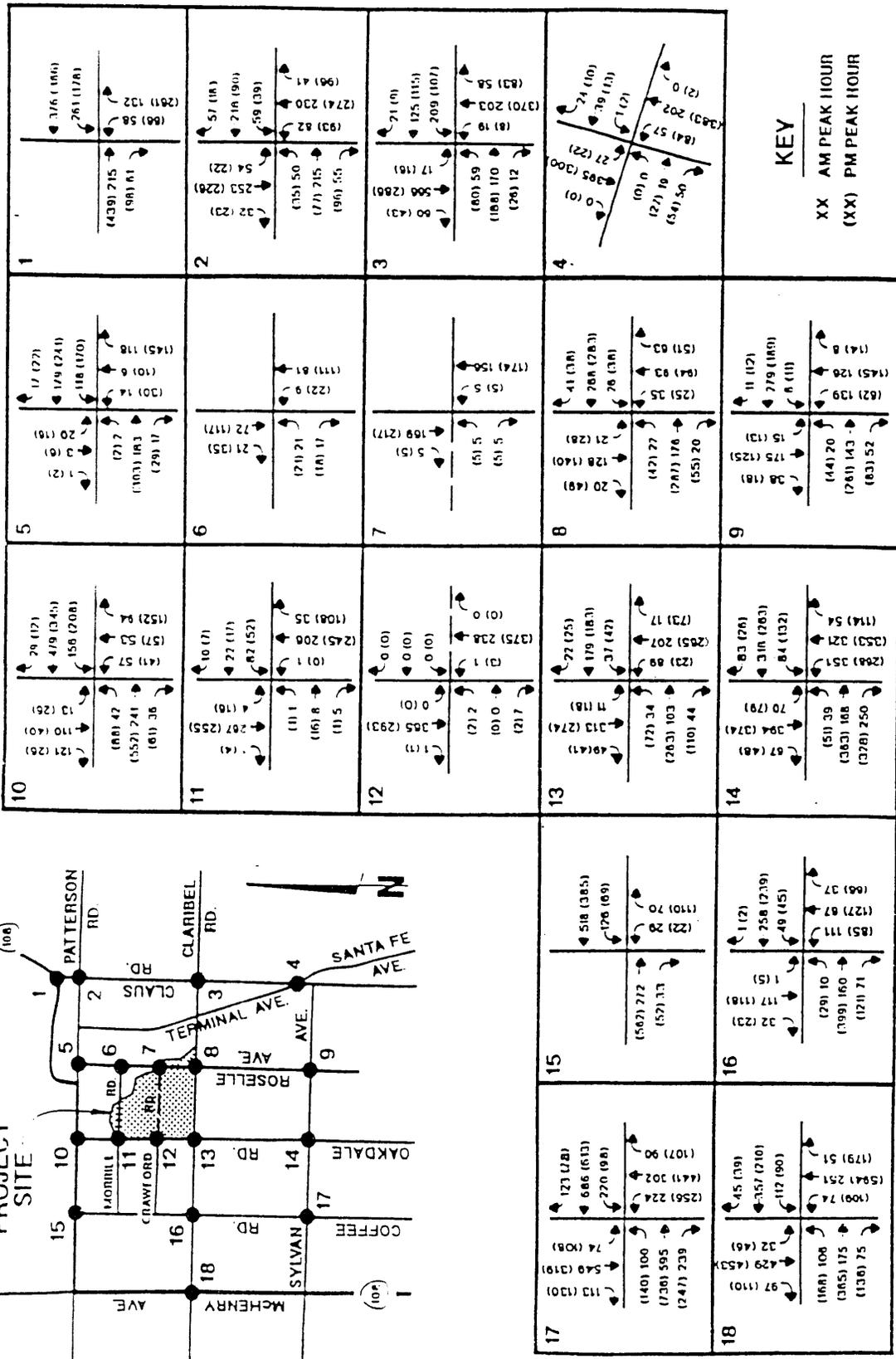
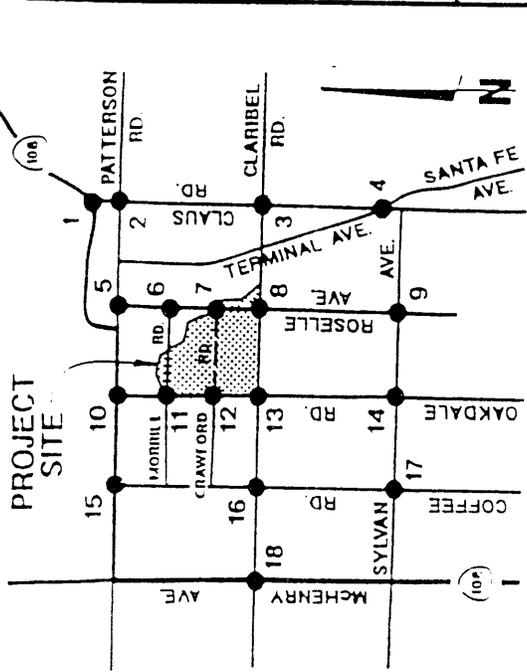
TABLE 8
LOS for Signalized Intersections

LOS	Flow	V/C Ratio ¹	Definition
A	Stable Flow	0.00–0.60	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully utilized.
B	Stable Flow	0.61–0.70	VERY GOOD. An occasional approach phase is fully utilized; drives may begin to feel somewhat restricted within groups of vehicles.
C	Stable Flow	0.71–0.80	GOOD. Occasionally drivers may have to wait through more than one red light; back-ups may develop behind turning vehicles.
D	Nearing Unstable Flow	0.81–0.90	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive back-ups.
E	Unstable Flow	0.91–1.00	POOR. Represents the most vehicles an intersection approach can accommodate; may be long lines of waiting vehicles through signal cycles
F	Forced Flow	Varies	FAILURE. Gridlock at intersection approaches. Tremendous delays with continuously increasing queue lengths.

¹ In general, volume-to-capacity ratios cannot be greater than 1.00, unless the lane capacity assumptions are too low. Also, if future demand projections are considered for analytical purposes, a ratio of greater than 1.00 might be obtained, indicating that the projected demand would exceed the capacity.

Source: Transportation Research Board and Highway Research Board

Unsignalized Intersections. Currently, six of the study intersections are controlled by stop signs on the minor approach or approaches: Claus Road/Route 108, Claus Road/Santa Fe Avenue, Roselle Avenue/Morrill Road, Roselle Avenue/Patterson Road, Roselle Avenue/Crawford Road, Oakdale Road/Crawford Road, and Coffee Road/Patterson Road. Gap acceptance and reserve capacity are used for LOS analysis for unsignalized intersections. Procedures used for calculating unsignalized intersection LOS are as presented in the "1985 Highway Capacity Manual" and are outlined in Table 9. LOS at the unsignalized intersections, which are controlled



Source: K.D. Anderson, Transportation Engineers



A Land Use Planning and Design Firm

City of Riverbank
 Crossroads Community Specific Plan EIR
 Existing AM & PM Peak Hour Turning Movements

Figure 9

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TABLE 9
LOS for Unsignalized Intersections

LOS	Flow	Reserve Capacity	Definition
A	Stable Flow	>400	EXCELLENT. Little or no delay.
B	Stable Flow	300-399	VERY GOOD. Short traffic delays. Presence of other vehicles noticeable.
C	Nearing Unstable Flow	200-299	GOOD. Average traffic delays. Ability to maneuver and select operating speed affected.
D	Unstable Flow	100-199	FAIR. Long traffic delays. Speeds and ability to maneuver restricted.
E	Very Unstable Flow	0-99	POOR. Very long traffic delays, failure, extreme congestion. At or near capacity.
F	Forced Flow	Varies	FAILURE. Intersection blocked by external causes. Total breakdown.

Source: Transportation Research Board and Highway Research Board

by side street stop signs, are indicative of the magnitude of the delay incurred by motorists which must yield the right of way at an intersection.

All-Way Stop Intersections. Seven of the study intersections are all-way stop controlled: Claus Road/Patterson Road, Claus Road/Claribel Road, Roselle Avenue/Claribel Road, Roselle Avenue/Sylvan Avenue, Oakdale Road/Morrill Road, Oakdale Road/Claribel Road, and Coffee Road/Claribel Road. Current procedures for calculating the LOS at all-way stop controlled intersections are based on such

TABLE 10
LOS Criteria for All-Way Stop Control

LOS	DELAY (Seconds/Vehicle)
A	< 5
B	5 - 10
C	10 - 20
D	20 - 30
E	30 - 40
F	> 40

Source: Transportation Research Board and Highway Research Board

factors as the number of approach lanes, the volume of traffic and a peak hour factor. A delay in time, V/C ratio and LOS are calculated for each individual approach movement. Combining and weighing the overall approach delays yields an overall intersection delay. Table 10 presents the average delay associated with each LOS. Existing Levels of Services

The city requires that intersections and roadway segments operate at an LOS C or better to be considered acceptable. Stanislaus County uses LOS D to define acceptable intersection and roadway operations. Beyond this threshold (i.e., LOS E and F) traffic operations are considered deficient and appropriate mitigations should be identified. The Congestion Management Program (CMP) for Stanislaus County also prescribes LOS standards for the CMP roadway system. The adopted CMP standard within urban spheres and community areas is LOS D. When there is a conflict between the CMP LOS for CMP roadways which are located in local jurisdictions, the prevailing LOS will be that of the local jurisdiction's. Therefore, the applicable LOS standard for which the project is subject to is "C".

Other agencies with specific jurisdiction over particular facilities, such as Caltrans, have also established LOS thresholds. Caltrans has established an LOS C standard for major routes such as State Route 99. This is also the standard for "Routes of Regional Importance" such as State Route 108. On "Routes of Secondary Significance", such as State Route 219, LOS D is the identified "Concept" Level of Service. Similarly, the SAAG defines a "capacity problem" as LOS D or worse.

The following discussion describes the existing conditions for the three types of intersections located in the circulation study area. Table 11 identifies the traffic control, the delay or volume-to-capacity ratio and corresponding LOS for each of the intersections evaluated in the circulation study area during the morning and evening peak hours.

Because these calculations ignore the condition of through traffic flow (which is assumed to flow freely) a supplemental traffic signal warrant analysis is performed to confirm the significance of calculated delays. While the unsignalized LOS may indicate very long delays, traffic conditions are generally not assumed to be unacceptable unless signal warrants are satisfied. Satisfying signal warrants signifies that intersection improvements may be warranted, but does not mean that installation of a signal is the only way to mitigate conditions. It is often possible to improve operations with additional lanes or improved geometrics to reduce delays. The signal warrant criteria employed for this study are based on the signal warrant guidelines published by the Federal Highway Commission (1994).

Signalized Intersections. All of these signalized study intersections operate at an acceptable LOS during both the morning and evening peak hours.

Unsignalized Intersections. Currently, the Oakdale Road/Crawford Road intersection and the Roselle Avenue/Morrill Road intersections operate satisfactorily at LOS B or better during both the morning and evening peak hours. The Claus Road/Santa Fe Avenue, Roselle Avenue/Patterson Road and Coffee Road/Patterson Road intersections experience LOS D during one or both of the peak study hours. The Claus Road/Route 108 intersection experiences LOS E for motorists waiting to turn left during both the morning and evening peak hours.

TABLE 11
Existing Intersection Levels of Service

	Intersection	Control	Existing Conditions			
			Morning Peak Hour		Evening Peak Hour	
			Delay* or V/C	LOS	Delay* or V/C	LOS
1.	Claus Rd/Route 108	1-way stop				
	WB left (major)		525	A	385	B
	NB left (minor)		61	E	20	E
	NB right (minor)	589	E	217	C	
2.	Claus Rd/Patterson	4-way stop	10.7	C	6.1	B
3.	Claus Rd/Claribel	4-way stop	19.0	C	10.8	C
4.	Claus Rd/Santa Fe	2-way stop				
	NB left (major)		657	A	716	A
	SB left (major)		890	A	708	A
	EB left (minor)		203	C	189	D
	WB left (minor)	203	C	151	D	
5.	Roselle Ave/Patterson	2-way stop				
	EB left (major)		946	A	875	A
	WB left (major)		800	A	597	A
	NB left (minor)		351	B	175	D
	SB left (minor)	239	C	112	D	
6.	Roselle Ave/Morrill	1-way stop				
	NB left (major)		987	A	915	A
	EB left (minor)		662	A	488	A
	EB right (minor)	938	A	805	A	
7.	Roselle Ave/Crawford	Future intersection				
	NB left (major)		NA	NA	NA	NA
	EB left (minor)		NA	NA	NA	NA
	EB right (minor)	NA	NA	NA	NA	
8.	Roselle Ave/Claribel	4-way stop	5.1	A	7.0	B
9.	Roselle Ave/Sylvan	4-way stop	7.8	C	6.8	B
10.	Oakdale Rd/Patterson	signal	0.42	A	0.56	A
11.	Oakdale Rd/Morrill	4-way stop	4.5	A	5.0	B
12.	Oakdale Rd/Crawford	1-way stop				
	NB left (major)		769	A	841	A
	EB left (minor)		350	B	309	B
	EB right (minor)	655	A	732	A	
13.	Oakdale Rd/Claribel	4-way stop	5.1	B	6.8	B
14.	Oakdale Rd/Sylvan	signal	0.54	A	0.55	A
15.	Coffee Rd/Patterson	1-way stop				
	WB left (major)		679	A	477	A
	NB left (minor)		136	D	120	D
	NB left (minor)	654	A	357	B	
16.	Coffee Rd/Claribel	4-way stop	6.5	B	12.5	C
17.	Coffee Rd/Sylvan	signal	0.71	C	0.65	B
18.	McHenry Ave/Claribel	signal	0.55	A	0.68	B

* Delay in seconds V/C = Volume-to-Capacity Ratio

Source: K.D. Anderson Transportation Engineers

While the delays experienced by motorists at these unsignalized intersections are relatively long, traffic conditions are generally not assumed to be unacceptable unless signal warrants are satisfied (i.e., signals are needed). Left turning traffic volumes are currently relatively minor and do not warrant installation of a traffic signal. Therefore, no improvements are currently needed at any of the unsignalized study locations.

All-Way Stop Intersections. All of the all-way stop controlled intersections currently operate at LOS C or better during both peak hours. The most significant delay of 19 seconds is experienced at the Claus Road/Claribel Road intersection during the morning peak hour. Although a 19 second delay is within the threshold of requiring mitigations, warrants for signalization are not yet satisfied.

Alternative Transportation Modes

Transit. Stanislaus County Transit (SCT) operates seven public transit services. Six of these services are operated under contract with private companies. The SCT also contracts with the cities in Stanislaus County to provide additional services to the unincorporated areas in the County.

In the vicinity of the study area, the closest weekday service point is provided on Patterson Road/Route 108 between McHenry Avenue and Jackson as it passes through the city on the Modesto/Riverbank/Oakdale bus route. Weekday service is provided from 6:00 A.M. to 7:00 P.M. Transfer to other Stanislaus County Transit services and the Modesto Area Express service is available at 9th and I Streets in Modesto.

The City of Modesto and Stanislaus County provide Dial-A-Ride service to the elderly and handicapped seven days a week, every day of the year by calling at least two hours in advance of departure. Dial-A-Ride is exclusively for the elderly (65 and older) and handicapped between the hours of 7:00 A.M. and 6:00 P.M. Monday through Friday and between 9:00 A.M. and 5:00 P.M. on Saturdays. Dial-A-Ride also provides services to the general public, but only between 6:00 P.M. and 11:00 P.M. Monday through Fridays and between 9:00 A.M. to 5:00 P.M. on Sundays.

The City of Modesto provides fixed-route service throughout the Modesto area. The Modesto Area Express (MAX) operates between the hours of 6:15 A.M. and 6:30 P.M. Monday through Friday and between 8:15 A.M. to 6:15 P.M. on Saturdays. MAX operates 25 buses on 16 separate routes. Patrons may catch MAX buses at most corners along their routes.

MAX routes currently do not serve the plan area. MAX routes extend north on McHenry Avenue as far as Kiernan Avenue, on Mable between Coffee Road and Oakdale Road and on Sylvan Avenue from Oakdale Road west to State Route 99.

Bicycle and Pedestrian. Due to the relatively rural nature of the study area, established bicycle and pedestrian facilities adjacent to the roadways are limited. Individual roadway segments provide some paved shoulder area to accommodate bicycle and pedestrian travel, with sidewalk facilities provided in areas of recent resi-

dential and commercial development. Most of the roadway segments serving the area are as originally constructed to rural standards and do not provide adequate area for bicycle and pedestrian use separated from the vehicular travel lanes. However, bicycle/pedestrian routes are specifically provided via the Hetch Hetchy bicycle/pedestrian trail which runs through the southern portion of the plan area.

Mitigation Programs and Fees

Stanislaus County and its incorporated cities have recognized the need to develop a comprehensive approach for mitigating the impacts of growth. Mitigation for road facilities is part of the Stanislaus County Public Facilities Fee Program.

The public facilities fee for county roads and other associated traffic facilities is complex because different types of new development will impact different parts of the county-wide road system. In order to satisfy "nexus" requirements, the county's road fee is composed of three separate fees with each fee designed to mitigate the impacts on three different types of county roads. Generally defined, these types of roads include:

1. Inter-city routes that serve all county residents;
2. Urban sphere roads inside a city's urban sphere that have been incorporated into a city's long range traffic planning; and
3. City/county roads that serve the remaining unincorporated areas of the county and could eventually be included as part of a city's sphere-wide traffic improvements.

Improvements to many of the roads within the circulation study area are included in one of the fee programs.

Stanislaus County Regional Expressway Study (SCRES)

The SCRES is a study used by SAAG to establish the need for an expressway system determine the preferred location and phasing characteristics of future expressways, define preferred design concepts, assess environmental and general plan issues associated with the expressway plan and define the financing and institutional arrangements needed to implement the plan.

There are several roadways in the vicinity of the plan area designated by the SCRES as either expressways, arterials, or collectors. These three types of roadways are described below.

- Expressway. An arterial highway with at least partial control of access, which may or may not be divided or have grade separations at intersections. Claribel Road is designated a future expressway.
- Arterial. Provides mobility with intermittent access to freeways, collectors, and other streets, with access to major traffic generating land uses. Oakdale Road and Roselle Avenue are designated as arterials.

- Collector. Provides mobility by connecting local streets to arterials, and provides access to adjacent land use. Morrill Road and Crawford Road are designed as collectors.

1994 Regional Transportation Plan (RTP)

The reader is referred to the discussion of the 1994 RTP in Section 1 of this EIR.

Congestion Management Program (CMP)

State Assembly Bill 471 requires that all counties containing an urban area population of 50,000 or more prepare, implement and monitor a Congestion Management Program (CMP). The Stanislaus Area Association of Governments (SAAG) is the designated Congestion Management Agency (CMA) for Stanislaus County.

The required components of the CMP, with regard to land development, include:

- A program to analyze the impacts of land use decisions on regional transportation systems; and
- The development of a uniform database on traffic impacts for use in a county-wide transportation computer model.

According to SAAG guidelines, which were adopted in March 1993, the impact of a general plan amendment (GPA) must be analyzed whenever the GPA is projected to generate more than 1,000 daily trips. The proposed project exceeds that requirement by 39,519 (project trips and impacts are discussed in the following "Project Analysis Section").

The CMP system is defined by SAAG as the State Highway network within Stanislaus County. In the vicinity of the plan area, the CMP network includes State Route 219 (Kiernan Avenue) and State Route 108 (McHenry Avenue). The CMP establishes LOS D as the Level of Service standard for these roads.

Impacts to the Congestion Management Program (CMP) Network Without External Trips. For purposes of evaluating the need for roadway improvements to the CMP network, enacting legislation allows the traffic volumes on the CMP roadways to consider only those trips originating within the jurisdiction. For this analysis, this applies to trips originating within Stanislaus County. The allowable reduction eliminates the external to internal (x-i; i.e., vehicle trips originating outside the CMP roadway network and ending inside the CMP roadway network) and external to external (x-x; i.e., vehicle traffic originating outside the CMP roadway network and passing through the CMP roadway network) trips from the CMP traffic model forecasts. Once trips originating out of the County had been omitted, the traffic model was again used to determine traffic on the CMP network with the proposed project. The result of the traffic model indicates that by deleting the external to internal and external to external trips, there is an overall drop in traffic on all of the CMP roadways. With this reduction, State Route 219 between Sisk Road and Stoddard Road

will operate beyond the CMP Level of Service standard. This is projected to occur with or without development of the proposed project.

Widening State Route 219 (Kiernan Avenue/Claribel Road) in the vicinity of Sisk Road will mitigate projected impacts to the CMP roadway network. As previously mentioned, this mitigation is identified as part of the Inter-City Fee Program.

With the deletion of external to internal and external to external trips, an overall reduction in trips is also projected on State Route 108. The entire length of State Route 108 from 8th Street in Riverbank to McHenry Avenue in Modesto will no longer be deficient in roadway capacity with the exception of the stretch between Coralwood and Needham Street. These two segments operate at LOS F with or without development of the project.

Trip Reduction and Travel Demand Management. The CMP identifies trip reduction measures to alleviate congestion and requires the county and cities to promote alternative transportation modes through the implementation of transportation control measures. However, Senate Bill 437 (Lewis), which was passed in October 1995, precludes air districts from enforcing trip reduction programs, such as those contained in the CMP. (Dave Mitchell, pers. com., November 2, 1995). In the case of the San Joaquin Valley Unified Air Pollution Control District, implementation of the trip reduction program was through Rule 9001. Without the benefit of enforcement through the San Joaquin Valley Unified Air Pollution Control District, the trip reduction program is now incorporated in the Air Quality mitigation section of this EIR as a recommendation only.

Project Analysis

Standard of Significance. According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system. Also, as it relates to this proposed project, the general plan requires a Level of Service "C" threshold for all roadways within its jurisdiction.

Project trip generation has been estimated by applying appropriate trip generation rates as contained in the Institute of Transportation Engineers (ITE) publication, *Trip Generation (Fifth Edition)* and from rates published in the SAAG Travel Demand Model Documentation (November 1993). In addition, all peak hour percentages and directional splits were obtained from these two sources. The LOS for roadway segments and intersections was recalculated to determine the anticipated impacts of the proposed project on traffic conditions in the circulation study area. For purposes of this analysis, it is assumed that there will be 2,036 residential units (1,810 single-family, 136 multiple-family, 90 senior residential units).

Trip Generation. The number of automobile trips projected to be generated by the proposed project has been estimated through application of trip generation rates. Daily and peak hour trip generation rates based on the number of dwelling units, acres and square footage were applied to the proposed project traffic conditions for the weekday morning and weekday evening peak hours.

Build-out of the plan area is projected to generate a total of 57,451 gross daily trips, with 4,503 gross trips occurring in the morning peak hour and 5,588 gross trips occurring in the evening peak hour, respectively. The total number of peak hour vehicle trips generated by the proposed project are split into inbound and outbound traffic for all peak periods. "Gross" daily trips are those trips the proposed project attracts and generates. This includes "pass-by-trips".

Pass-by Trips. ITE has also reported that the trip generation of many commercial activities is not all "new" traffic and that mixed-use sites, such as the proposed project, generate multi-purpose trips. Studies have shown that much of the traffic which is counted at commercial driveways (the source of the trip generation rates) are "non-diverted linked" or "pass-by" trips. A pass-by trip is one in which the driver was already traveling on the street or roadway on which the facility is located. Since not all of the trips are "new" trips to the facility, a reduction in the effective trip rate would be rationally justified.

ITE reports that approximately 30 to 60 percent of the trip generation of commercial facilities may be pass-by trips. However, even though these trips may have already been accounted for in the traffic volume on the adjacent street, they can significantly affect turning movement patterns at nearby or adjacent intersections. Pass-by trips are subtracted from some intersection approaches and then added back into other intersections or movements. In other words, pass-by trips are redistributed while new trips are added to the existing volumes. For the purpose of this study, a 30 percent pass-by reduction was assumed.

In addition to pass-by trip reduction, large mixed-use development projects tend to have a significant interaction between the land uses. In the case of the proposed project, interaction between the residential uses and the business park and village commercial is anticipated to occur. This interaction results in trips generated by both the residential and non-residential uses being internal to the plan area. As a result, these trips would not affect the study intersections. Therefore, for the purpose of this study, it was assumed that a 30 percent internal reduction from non-residential trip generation for interaction between the two land uses would be applicable. This projection is consistent with the MINUTP travel demand model projections for the internal matching occurring between land uses internal to the plan area itself.

Based on trip generation rates, the pass-by percentages and the internal matching assumed to occur, the proposed project is estimated to generate 40,519 "new" net daily trips with 3,642 morning peak hour trips and 4,556 evening peak hour trips. Table 12 presents the gross and "new" net trips expected to be generated by proposed project on a daily and peak hour basis.

Trip Distribution. Having determined the number of trips expected to be generated upon build-out of the plan area, it is necessary to identify the directional distribution of estimated traffic. The directional distribution will be influenced by both employment and shopping opportunities regarding the residential aspect of the proposed project, and by surrounding population centers with regard to the employment opportunities provided by the business park and commercial portions of the site.

TABLE 12
Project Trip Generation

Land Use	Quantity	Daily Trips	Morning Peak Hour			Evening Peak Hour		
			In	Out	Total	In	Out	Total
Single Family	1,810 du	19,964	348	991	1,339	1,170	658	1,828
Multi-Family	136 du	718	11	58	69	58	28	86
Senior Residential ¹	90 du	331	7	8	15	21	17	38
Business Park	1,167,408 sf	15,480	1,440	255	1,695	311	1,102	1,413
Highway Commercial ²	217,800 sf	14,908	215	127	342	693	693	1,386
Village Commercial	130,000 sf	5,287	400	433	833	365	276	641
Elementary School ³	700 students	763	126	84	210	118	78	196
Subtotal Trips		57,451	2,547	1,956	4,503	2,736	2,852	5,588
Internal 30%		6,230	552	206	758	203	413	616
Pass-by 30%		4,472	65	38	103	208	208	416
Total "New" Trips		40,519	1,930	1,712	3,642	2,325	2,231	4,556

du = dwelling unit

sf = square feet

¹ = Senior Residential assumed 1/3 of single family trip rate

² = Highway Commercial assumed to have 25% coverage on 2-10 acre sites

³ = Elementary School assumed to have 700 students

Source: K.D. Anderson Transportation Engineers

TABLE 13
Directional Distribution of External Project Generated Traffic

Direction	Percent of Traffic
State Route 108 Eastbound	9
McHenry Avenue to Escalon	10
State Route 219 Westbound	20
State Route 108 to Modesto	10
Coffee Road Southbound	10
Oakdale Road Southbound	8
Roselle Avenue Southbound	10
Claus Road Southbound	10
Claribel Road Eastbound	5
Patterson Road Eastbound	3
Santa Fe Avenue Northbound	5
TOTAL	100

Source: K.D. Anderson Transportation Engineers

The county wide traffic model developed for SAAG was also used to determine and quantify the direction of travel. Table 13 presents the estimated directional distribution for external project generated traffic. As shown, the largest proportion of traffic is projected to be oriented to the south towards Modesto.

Existing Plus Project Traffic Conditions

Based on the directional distribution information presented in Table 13, A.M. and P.M. peak hour traffic generated by build-out of the plan area was assigned to the adjacent street system. Project generated trips were then added to existing background traffic to represent conditions resulting from build-out of the proposed project. The resulting peak hour traffic volumes are contained in Figure 10.

The discussion addresses existing plus project conditions for roadway segments and the three types of intersections located in the circulation study area. This development scenario assumes existing roadway conditions and the construction of Crawford Road between Oakdale Road and Roselle Avenue.

Roadway Segment Analysis. Based upon the distribution and assignment of traffic generated by future development on the plan area, the resulting morning and evening peak hour volumes for the various roadway segments included in the study area suggest that potential impacts on the existing circulation system could be significant.

The roadway segments that would be most affected upon build-out of the proposed project include the perimeter roadways that encompass the plan area. In addition, it can be expected upon build-out of the proposed project that all roadway segments analyzed in the study area would incur substantial increases in traffic volumes.

Claribel Road is expected to decline from LOS D to LOS E/F from Claus Road to State Route 108. To improve operations, a four lane section will be required for this roadway segment to achieve an acceptable LOS with or without the project.

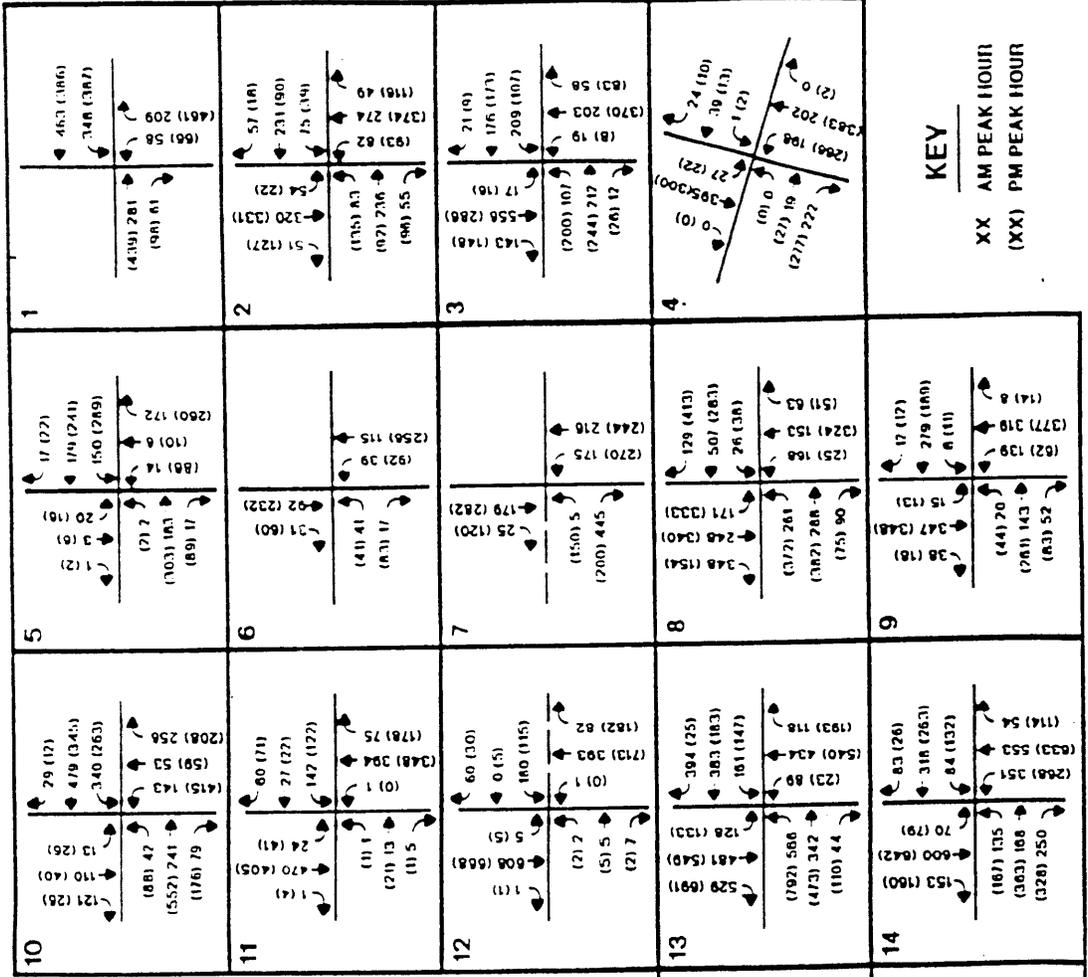
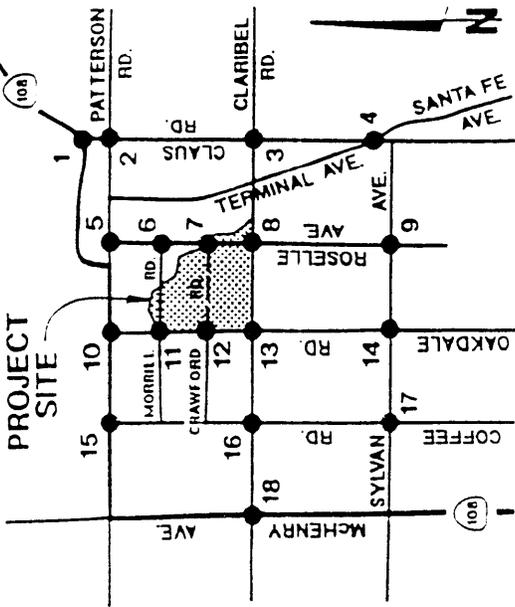
Oakdale Road is expected to decline from an acceptable LOS to LOS F north of Claribel Road to State Route 108.

Roselle Avenue is also expected to decline from an acceptable LOS to LOS F north of Claribel Road to State Route 108.

Signalized Intersections. The Oakdale Road/Patterson Road intersection will decline from LOS A to LOS E during the evening peak hour. This is due to relatively large increases in turning volumes to/from Patterson Road and from/to Oakdale Road.

The McHenry Avenue/Claribel Road intersection is expected to decline from LOS A to LOS E during the morning peak hour and from LOS B to LOS F during the evening peak hour.

Build-out of the plan area is also expected to incrementally increase the volume of traffic at other signalized intersections in the circulation study area. This increase would reduce the available capacity of these intersections. As a result, the Oakdale



Source: K.D. Anderson, Transportation Engineers

City of Riverbank
 Crossroads Community Specific Plan EIR
 Existing Plus Project AM & PM Peak Hour Turning Movements

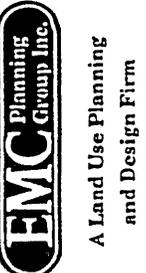


Figure 10

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Road/Sylvan Avenue intersection will decline from LOS A to LOS B during both morning and evening peak hours. In addition, the Coffee Road/Sylvan Avenue intersection is expected to decline from LOS B to LOS C during the evening peak hour. Although these LOS reductions are indicative of the increased volume of traffic generated by the proposed project, traffic operations at these intersections would continue overall to operate at an acceptable LOS.

Unsignalized Intersections. The addition of project traffic to all of the study intersections yields LOS D or worse operations for the left turn on the minor street approach, with the exception of the Roselle Avenue/Morrill Road intersection, which degrades to LOS C. However, while delays for motorists on these approaches may be significant, it does not mean that the intersection itself operates at an unacceptable level. Therefore, an investigation of signal warrants was conducted using Caltrans signal warrant criteria.

Under existing plus project conditions, peak hour warrants for signalization would be met at the Patterson Road/Roselle Avenue and the Oakdale Road/Crawford Road intersections. In addition, warrants for signalization would also be met at the future Roselle Avenue/Crawford Road intersection. Although traffic volumes would warrant signalization at these three intersections, it does not mean that signalization of the intersection is the only way to improve operations. If a separate northbound right-turn lane at the Patterson Road/Roselle Avenue intersections were provided, this intersection would no longer meet warrants for signalization. If separate left- and right-turn lanes on the Crawford Road approach were provided at the Roselle Avenue/Crawford Road intersection, this intersection would no longer meet warrants for signalization.

While operations at the remaining unsignalized intersections may operate below an acceptable level of service, none of the other study intersections meet peak hour warrants for signalization.

All-Way Stop Intersections. Operations at the Claribel Road intersections with Roselle Avenue, Oakdale Road, and Coffee Road will decline from an acceptable LOS (A and B) to LOS F during both the A.M. and P.M. peak hours. However, the Claus Road/Patterson Road and Claus Road/Claribel Road intersections will continue to operate at LOS C during the evening peak hour upon build-out of the proposed project.

Although traffic operations at two of these intersections would continue to operate at an acceptable LOS, a peak hour warrant analysis for signalization was conducted for all of the all-way stop controlled intersections. Peak hour warrants for signalization would be met at the Claribel Road intersections with Roselle Avenue, Oakdale Road and Coffee Road. Other than these three intersections, none of the other all-way stop controlled intersections met peak hour warrants for signalization.

Intersection Summary. Build-out is expected to occur over a number of years. The purpose of this analysis has been to isolate specific transportation impacts to the circulation study area that would occur upon build-out of the proposed project. Based on this analysis, a total of seven traffic signals would be warranted under the existing plus project traffic conditions. This includes the signalization of two

intersections that will be created upon build-out of the proposed project. In addition, several intersections will experience an unacceptable LOS.

Table 14 identifies the traffic control, the delay or V/C ratio and corresponding LOS for each of the intersections evaluated in the circulation study area during the morning and evening peak hours under existing plus project conditions.

Access and Internal Circulation

The proposed project defines a system of local streets which would serve the plan area. As proposed, Crawford Road would be extended from Oakdale Road east to Roselle Avenue. Two additional access intersections are proposed to intersect with Oakdale Road; one is approximately 1,600 feet south of Crawford Road and the other is approximately 1,600 feet north of Crawford Road. In addition, the site plan includes two additional access points to the north that intersect with Morrill Road. These access points are to be located 1,250 and 2,000 feet east of Oakdale Road.

Due to large traffic volumes expected to be generated by the proposed regional commercial/business park, the roadway linking this use to Oakdale Road will carry sufficient traffic volumes to warrant four lanes.

No formal site plan has been proposed for the highway commercial portion of the project. The highway commercial portion of the plan area which is bound by the MID Canal to the north and Claribel Road to the south is bisected by Roselle Avenue. Therefore, it has been assumed that the proposed project would access Roselle Avenue directly via one intersection with Roselle Avenue. Based on constraints such as the length of project frontage between Claribel Road and the MID canal, the project intersection should be located as far north of Claribel Road as physically possible. The maximum distance possible based on these physical constraints appears to be approximately 500 feet from Claribel Road.

The Oakdale Road/south project access intersection and the project access for the highway commercial portion of the plan area (southeast area) onto Roselle Avenue are expected to operate at LOS F during one or both peak hour periods. Due to exiting volumes of traffic from the plan area, roadway approaches to these intersections should provide sufficient width to accommodate separate left- and right-turn lanes out of the plan area and should be controlled by stop signs. Signalization will be warranted at both of these intersections upon build-out of the proposed project.

The north project access to Oakdale Road is expected to operate at LOS D during the morning peak hour and LOS E during the evening peak hour. While delays experienced by motorists may be long, warrants for signalization at this intersection are not met under this condition.

Both access road intersections with Morrill Road are projected to operate satisfactorily upon build-out of the plan area. It was assumed that the single family residences located to the north of Morrill Road would access the Morrill Road from the fourth leg of each of these proposed intersections.

TABLE 14
Existing Plus Project Intersection Levels of Service

Intersection	Control	Existing Plus Project Conditions			
		Morning Peak Hour		Evening Peak Hour	
		Delay* or V/C	LOS	Delay* or V/C	LOS
1. Claus Rd/Route 108 WB left (major) NB left (minor) NB right (minor)	1-way stop	350 -4 429	B F A	130 -54 -28	D F F
2. Claus Rd/Patterson	4-way stop	17.2	C	14.5	C
3. Claus Rd/Claribel	4-way stop	16.9	C	19.3	C
4. Claus Rd/Santa Fe NB left (major) SB left (major) EB left (minor) WB left (minor)	2-way stop	484 890 117 59	A A D E	708 494 98 31	A A E E
5. Roselle Ave/Patterson EB left (major) WB left (major) NB left (minor) SB left (minor)	2-way stop	946 761 175 318	A A D B	875 394 16 25	A B E E
6. Roselle Ave/Morrill NB left (major) EB left (minor) EB right (minor)	1-way stop	939 542 914	A A A	735 269 665	A C A
7. Roselle Ave/Crawford NB left (major) EB left (minor) EB right (minor)	1-way stop	727 301 296	A B C	408 -41 442	A F A
8. Roselle Ave/Claribel	4-way stop	331.8	F	338.9	F
9. Roselle Ave/Sylvan	4-way stop	13.8	C	15.0	C
10. Oakdale Rd/Patterson	signal	0.68	B	0.94	E
11. Oakdale Rd/Morrill	4-way stop	11.8	C	11.7	C
12. Oakdale Rd/Crawford NB left (major) SB left (major) EB left (minor) WB left (minor)	1-way stop	564 667 123 -68	A A D F	552 379 28 -62	A B D F
13. Oakdale Rd/Claribel	4-way stop	819.1	F	6548.5	F
14. Oakdale Rd/Sylvan	signal	0.69	B	0.66	B
15. Coffee Rd/Patterson WB left (major) NB left (minor) NB left (minor)	1-way stop	585 88 563	A E A	395 71 278	B E C
16. Coffee Rd/Claribel	4-way stop	97.9	F	360.6	F
17. Coffee Rd/Sylvan	signal	0.77	C	0.76	C
18. McHenry Ave/Claribel	signal	0.94	E	1.26	F

* Delay in seconds V/C = Volume-to-Capacity Ratio

Source: K.D. Anderson Transportation Engineers

Figure 11 illustrates the existing plus project peak hour turning movements for the project created access intersections. Table 15 identifies the traffic control, the delay or reserve capacity and corresponding LOS for each of the newly created intersections during the morning and evening peak hours under existing plus project conditions.

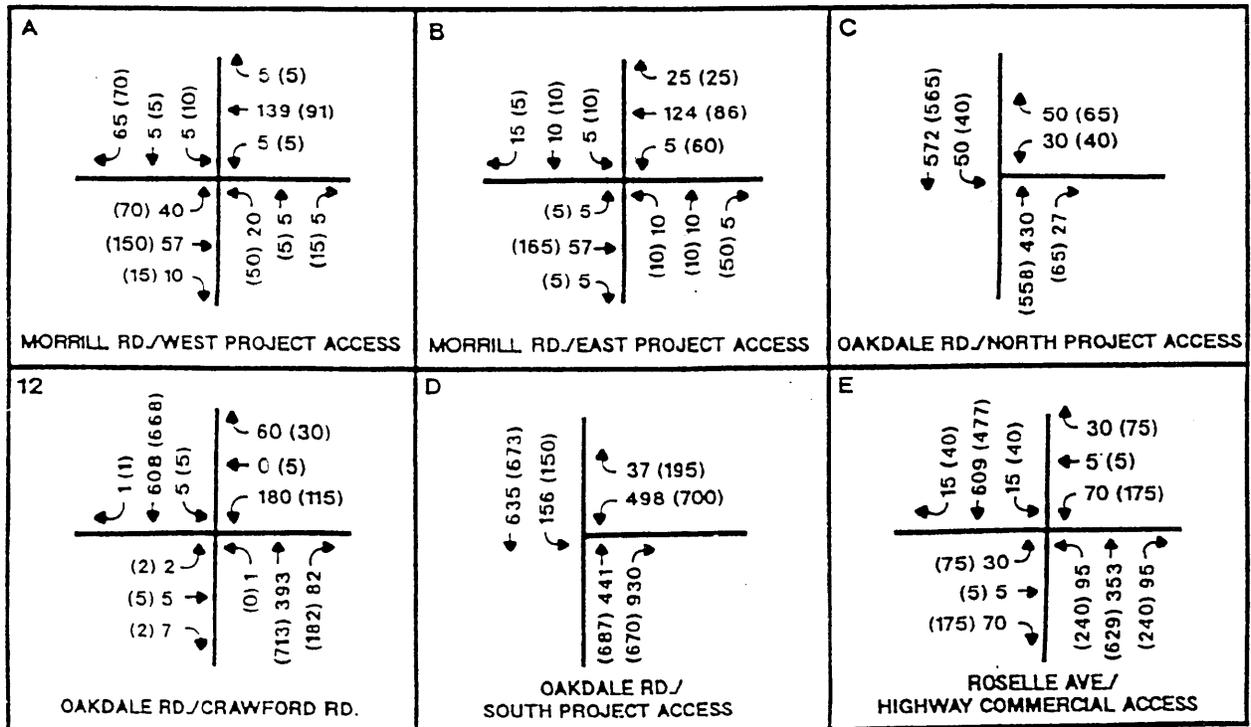
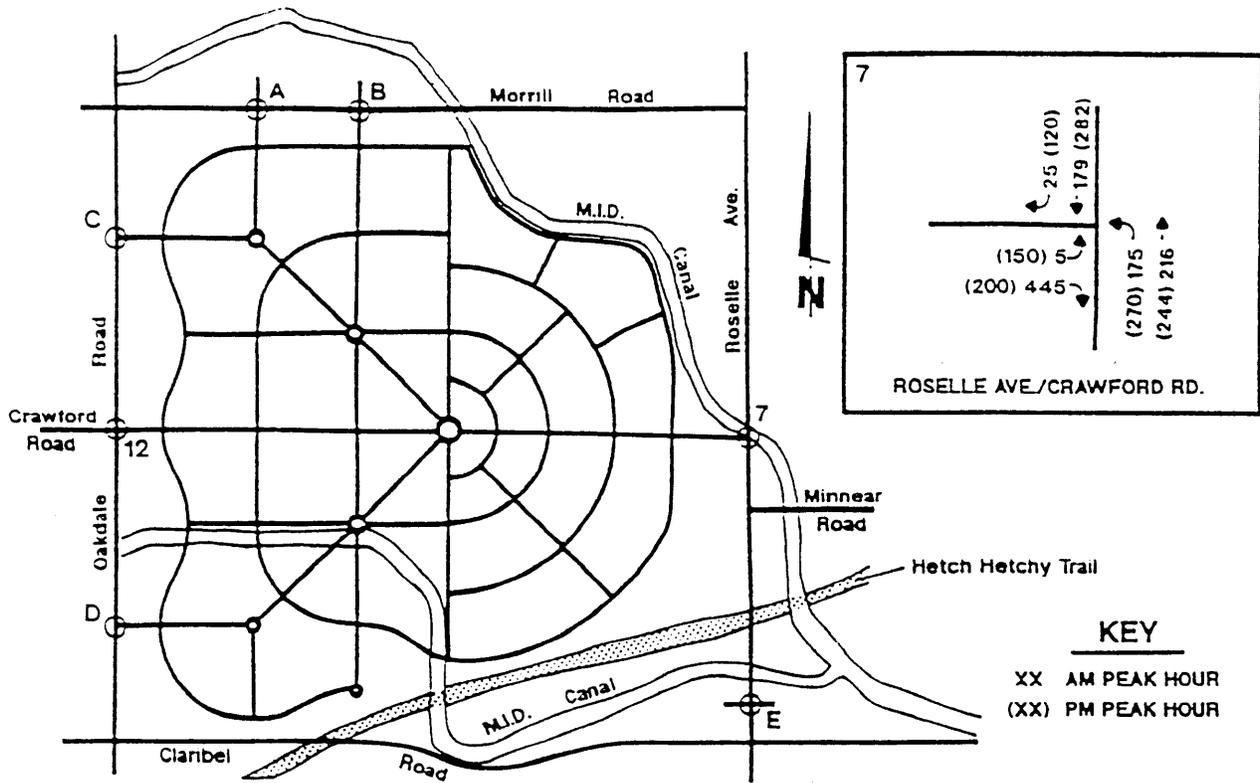
TABLE 15
Existing Plus Project Access and Internal Intersection LOS

	Intersection	Control	Existing Plus Project Conditions			
			Morning Peak Hour		Evening Peak Hour	
			Delay or R/C	LOS	Delay or R/C	LOS
A.	Morrill/West Project Access	2-way stop	930	A	911	A
	EB left (major)		993	A	965	A
	WB left (major)		483	A	376	B
	NB left (minor)		576	A	479	A
	SB left (minor)					
B.	Morrill/East Project Access	2-way stop	971	A	985	A
	EB left (major)		993	A	896	A
	WB left (major)		595	A	479	A
	NB left (minor)		625	A	437	A
	SB left (minor)					
C.	Oakdale/North Project Access	1-way stop	628	A	506	A
	SB left (major)		111	D	71	E
	WB left (minor)		541	A	411	A
	WB right (minor)					
D.	Oakdale/South Project Access¹	1-way stop	7	E	18	E
	SB left (major)		-605	F	-846	F
	WB left (minor)		258	C	20	E
	WB right (minor)					
E.	Roselle/Hwy Comm.¹	2-way stop	438	A	342	B
	NB left (major)		679	A	351	B
	SB left (major)		62	E	-54	F
	EB left (minor)		3	E	-183	F

R/C = Reserve Capacity ¹ Peak hour signal warrants met

Source: K.D. Anderson Transportation Engineers

Left-Turn Lane Channelization. The need for a left-turn lane at the study intersections which do not have a left-turn lane was evaluated using the procedures outlined in Table IX-15 in the American Association of State Highway and Transportation Officials (AASHTO) *Geometric Design of Highways and Streets* (1991). The AASHTO Table presents design hour levels of "following" and "opposing" traffic, as



Source: K.D. Anderson, Transportation Engineers



City of Riverbank
 Crossroads Community Specific Plan EIR
**Existing Plus Project Specific
 AM & PM Peak Hour Turning Movements
 For Proposed Access Points**

Figure
11

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well as percentage of vehicles turning, which can be used as criteria for confirming the need for left turn lanes.

Under the existing plus project traffic condition, the Patterson Road/Roselle Avenue intersection and the Morrill Road/Roselle Avenue intersection meet this criteria primarily due to the relatively large amount of through traffic on Patterson Road and Roselle Avenue coupled with the large number of motorists turning left from the major street.

Upon build-out of the proposed project, the newly created intersections of Crawford Road/Roselle Avenue, Oakdale Road/South Project Access and the Roselle Avenue/Highway Commercial Access will meet this criteria for left-turn channelization.

However, all of these locations, with the exception of the Morrill Road/Roselle Road intersection also meet peak hour warrants for signalization. At the locations where warrants for signalization are met, left-turn channelization would be implemented in conjunction with signalization.

Project Trip Generation and Distribution. The proposed project is expected to generate 57,451 gross daily trips. Of this total, about 37% will be generated by residential uses and 63% will be generated by commercial/retail uses. Because these land uses, as well as other uses in the area, are "complimentary", many of these trips ends will be matched locally or internally and development of the site will also affect the overall jobs/housing balance in the area. This latter effect will also in turn affect the directionality of traffic volumes in the year 2005 planning horizon. As a result, comparison of year 2005 traffic volume forecasts with and without the project indicates that few project trips will be realized as increased traffic on the CMP roadway network.

Impacts to the CMP Network. Using the year 2005 CMP travel demand model maintained by SAAG, traffic projections were made with and without the proposed project. Resulting CMP roadway system daily traffic volume forecasts are indicated in Table 16. This table also indicates the forecast LOS associated with these traffic volumes based on the applicable calculation methodology recognized by SAAG and Caltrans.

On State Route 219 (Kiernan Avenue west of McHenry, Claribel Road east of McHenry), project trips would exacerbate forecast traffic problems in the area where needed improvements are not anticipated by year 2005 (i.e., east of Sisk Road). Further to the east near State Route 108, the addition of project trips would reduce peak hour level of service from LOS D to LOS F.

Widening State Route 219/Claribel Road to four travel lanes will be required to mitigate projected LOS F conditions between Sisk Road and State Route 108. As presented in the preceding circulation element for the plan area, widening of this roadway in the vicinity of the project is identified as a mitigation needed to reduce project impacts to a less than significant level. Implementation of this improvement will mitigate impacts to this segment of the CMP network. Improvement funding is

included in the inter-city fee, with funding theoretically available in the future as development proceeds in the region.

On State Route 108, the addition of project trips would not by itself result in new CMP deficiencies. In fact, development of the project would improve operations on many segments of State Route 108 as motorists frequenting the plan area would exit the CMP network to use the local street system. This is primarily true in proximity to the plan area. For example, State Route 108 one-half mile west of Oakdale Road to Patterson improves from LOS E/F to LOS B because the project is expected to attract motorists traveling on State Route 108 to the site. This LOS improvement

also occurs on the segment of State Route 108 from Ladd Road to one-half mile west of Oakdale Road, but to a lesser degree. With project implementation, this segment of State Route 108 operations improve from LOS F to LOS D. Overall, State Route 108 experiences approximately a 5 - 17% decrease in traffic because of traffic diversions to the plan area.

TABLE 16

Year 2005 Levels of Service on CMP Roadway System

State Route	Location	With Project			Without Project		
		Volume	Lanes	LOS	Volume	Lanes	LOS
SR219	Route 99 to Sisk	28,000	4	A	27,600	4	A
	Sisk to Stoddard	23,700	2	F	22,800	2	F
	Stoddard to Route 108	19,500	2	F	16,100	2	D
SR108	Patterson to 8th (Riverbank)	17,000	4	A	18,800	4	A
	1/2 mile west of Oakdale to Patterson	14,200	2	B	17,100	2	E/F
	Ladd Rd to 1/2 mile west of Oakdale	15,800	2	D	18,800	2	F
	Route 29 to Ladd Rd	18,200	2	F	19,100	2	F
	Coralwood Rd to Route 219	27,700	4	A	22,600	4	A
	Briggsmore to Coralwood	59,200	6	A	56,000	6	F
	Needham St to Briggsmore	48,500	4	F	42,100	4	F
	L St at Needham to McHenry	28,200	4	B	28,100	4	B

LOS = Level of Service

Source: K.D. Anderson Transportation Engineers

Project trips would, to a minor degree, exacerbate the poor LOS forecast for State Route 108 from Coralwood to Needham Street (i.e., LOS F with or without development of the plan area). However, the increase in traffic volume associated with development of the project would comprise only about 6 percent of the total traffic volume projected for the roadway segment. Improvements on State Route 108 from State Route 219 to Crane is included in the inter-city fees. The city and county fees encompass the widening of State Route 108 from State Route 219 to Willowood. Improvements to McHenry Avenue from Ladd Road to the San Joaquin County line are also included in the fee program.

Public Facilities Fee Program

Several transportation improvements identified in the public facilities fee program are necessary to accommodate cumulative development in the region. Many of these transportation improvements will be warranted whether or not the proposed project is implemented. These improvements include:

Widening of Oakdale Road and Roselle Avenue north of Claribel Road to State Route 108. These improvements are also warranted with or without the proposed project and are included in the city/county fee program.

The traffic report recommends that the proponents of the proposed project implement these improvements when traffic volumes reach approximately 1,200 VPH on Oakdale Road. This traffic volume is expected along both roadway segments (i.e., Oakdale Road and Roselle Avenue) north of Claribel Road when approximately 15 percent of the proposed project is occupied. However, this threshold would not be reached north of the regional commercial/business park access until approximately 50 percent of the proposed project is occupied. The cost of these transportation improvements should be credited against City/County Fees.

Because these improvements are warranted with or without the proposed project, and are included in the public facilities fee program, it would be inappropriate for the city to fund the widening of these two roadway segments. Rather, the city should be responsible for paying the established fees. The public facilities fee program is calculated based on peak hour trip generation, plus factors which account for trip length and "Causality Adjustment."

Mitigation for Existing Conditions

Signalized Intersections. Signalized study intersections identified for analysis currently operate satisfactorily.

Unsignalized Intersections. None of the unsignalized intersections within the study area currently warrant signalization.

Roadway Segments. Study area roadway currently provide satisfactory Levels of Service. This is consistent with the findings of the Stanislaus County Public Facilities Fee Program.

Impacts and Mitigation Measures

The proposed project is estimated to generate approximately 40,519 "new" net weekday daily trips with 3,642 trips during the morning peak hour and 4,556 trips during the evening peak hour. This increased volume of traffic will have an impact on the surrounding circulation system.

Impact

During the A.M. and P.M. peak hours, three roadway segments are projected to operate below LOS C:

- Claribel Road is expected to decline from LOS D to LOS E/F from Claus Road to State Route 108;
- Oakdale Road is expected to decline from an acceptable LOS to LOS F north of Claribel Road to State Route 108; and
- Roselle Avenue is also expected to decline from an acceptable LOS to LOS F north of Claribel Road to State Route 108.

This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measures will reduce the potential impact to a less-than-significant level.

Mitigation

The project's fair share for external transportation mitigation is provided in Chapter 9 of the Crossroad Community Specific Plan - Financing Program. The project shall be required to pay city/county and inter-city fees or construct improvements based on the project's fair-share estimate. Any amount expended for external transportation improvements beyond the projects fair share shall be credited against the project's responsibility for unfunded or unprogrammed cumulative mitigation or be reimbursed by the city/county and/or inter-city fee program.

Claribel Road. Widen Claribel Road to four lanes. This improvement will become necessary in the future whether or not the project proceeds. Improvements to Claribel Road are included in the City of Modesto's CFF program and were included in the inter-city fees (as the Modesto/Oakdale/Riverbank Expressway), but have been dropped from the County's Public Facilities Fee (PFF) program. No source of immediately available funds exists to guarantee that the road will be widened. If Claribel Road improvements have not been implemented as part of the county's fee program, the project will be responsible for funding improvements to Claribel Road as indicated in the following mitigation.

7. Widen Claribel Road to four travel lanes along the project frontage and to a point 1,000 feet beyond the Oakdale and Roselle Avenue intersections. This improvement should be in place prior to full build-out of the project. The road should be widened when peak hour traffic on Claribel Road between Oakdale

Road and Roselle Avenue reaches about 1,200 VPH. Based on interpolation between "Existing" and "Existing Plus Project" traffic volumes, this improvement should be installed when approximately 80-85% of the project has been developed. The cost of this improvement should be credited against the project's responsibility for unfunded cumulative mitigation.

Oakdale Road. Widen Oakdale Road to four lanes. This improvement will become necessary in the future whether or not the project proceeds and is included in the city/county fee.

8. Widen Oakdale Road between Claribel Road and State Route 108 to four travel lanes. This mitigation should be implemented when traffic volumes reach about 1,200 VPH on Oakdale Road. This traffic volume would likely be reached just north of Claribel Road when about 15% of the project is occupied, but would not be reached north of the regional commercial/business park access until approximately 50% of the project is occupied. The cost of this improvement should be credited against city/county fees.

Roselle Avenue. Widen Roselle Avenue to four lanes. This improvement will become necessary in the future whether or not the project proceeds and is included in the city/county fee.

9. Widen Roselle Avenue between Claribel Road and State Route 108 to four travel lanes. This mitigation should be implemented when traffic volumes reach about 1,200 VPH on Roselle Avenue. This traffic volume would likely be reached just north of Claribel Road when about 15% of the project is occupied, but north of the regional commercial/business park access, about 50% of the project could be occupied before widening would be necessary on this section. The cost of this improvement should be credited against city/county fees.

Impact

During the A.M. peak hour, nine of the 18 study intersections are projected to operate below LOS C. During the evening peak hour, 11 of the 18 study intersections are projected to operate below LOS C:

- The Oakdale Road/Patterson Road intersection will decline from LOS A to LOS E during the evening peak hour.
- The McHenry Avenue/Claribel Road intersection is expected to decline from LOS A to LOS E during the morning peak hour and from LOS B to LOS F during the evening peak hour.
- The Claus Road/State Route 108 intersection is expected to decline from LOS E to LOS F during the morning peak hour and from LOS B to LOS D/F during the evening peak hour.

- The Claus Road/Santa Fe Avenue intersection is expected to decline from LOS C to LOS D/E during the morning peak hour and from LOS D to LOS D/E during the evening peak hour.
- The Roselle Avenue/Patterson Road intersection will decline from LOS C to LOS D during the morning peak hour and from LOS D to LOS E during the evening peak hour.
- The Roselle Avenue/Crawford Road intersection does not currently exist. However, upon implementation of the proposed project, Claribel Road will be extended through the plan area to intersect with Roselle Avenue. This intersection is expected to operate at LOS C during the morning peak hour and LOS F during the evening peak hour.
- The Oakdale Road/Crawford Road intersection will decline from LOS A to LOS D/F during both the morning and evening peak hours.
- The Coffee Road/Patterson Road intersection will decline from LOS D to LOS E during both the morning and evening peak hours.
- The Roselle Avenue/Claribel Road intersection will decline from LOS A to LOS F during the morning peak hour and from LOS B to LOS F during the evening peak hour.
- The Oakdale Road/Claribel Road intersection will decline from LOS B to LOS F during both the morning and evening peak hours.
- The Coffee Road/Claribel Road intersection will decline from LOS B to LOS F during the morning peak hour and from LOS C to LOS F during the evening peak hour.

This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.

The majority of these LOS reductions are due to inadequate left-turn channelization and left-turn movements on the minor street approach for all unsignalized intersections. As a result, these LOS reductions do not necessarily imply that the intersection itself would operate unacceptably. At the locations where warrants for signalization are met, left-turn channelization would be implemented in conjunction with signalization.

Intersections listed above that are not in the immediate vicinity of the project but are outside the Modesto sphere of influence, will be mitigated via the project's fair share contribution towards cumulative improvements at these intersections.

Mitigation

10. The Crossroads Community developers shall be responsible for the following improvements to the Oakdale Road/Claribel Road intersection. The

intersection improvements include signalization, and the provision of left-turn channelization at each approach, with dual left-turn lanes on the eastbound and westbound Claribel Road approach and an auxiliary right-turn lane on the southbound Oakdale Road approach. This is subject to the review and approval of the City Engineer prior to the issuance of the first development permit. The portion of this cost which is included in the existing fee programs should be determined in consultation with Stanislaus County and the City of Riverbank, and the project should be credited applicable costs against fees.

11. The Crossroads Community developers shall be responsible for the following improvements to the Roselle Avenue/Claribel Road intersection. The intersection improvements include signalization and the provision of left-turn channelization at each approach, with the provision of a separate westbound right-turn lane on the Claribel Road approach. This is subject to the review and approval of the City Engineer prior to the issuance of the first development permit. The portion of this cost which is included in the existing fee programs should be determined in consultation with Stanislaus County and the City of Riverbank, and the project should be credited applicable costs against fees.
12. To avoid signalization warrants being met, the Crossroads Community developers shall provide a separate northbound right-turn lane at the Patterson Road/Roselle Avenue intersection. This northbound separate right turn lane may be constructed as the drop lane when going from the 4 lanes section of Roselle Avenue south of Route 108 to the 2 lane section north of Route 108. Therefore, the cost of widening Roselle Avenue to 4 lanes would include the cost for providing a separate right turn lane at this location. This mitigation shall be subject to the review and approval of the City Engineer prior to the issuance of the first development permit.
13. The Crossroads Community developers shall provide separate left- and right-turn lanes on the Crawford Road approach to Roselle Avenue. However, ultimately this intersection will need to be signalized as traffic volumes on Roselle Avenue continue to increase. This mitigation shall be subject to the review and approval of the City Engineer prior to the issuance of the first development permit.

Impact

Three of the five intersections proposed as a part of the project will operate below LOS C during both the morning and evening peak hours:

- The Oakdale Road/North Project Access intersection will operate at LOS D during the morning peak hour and LOS E during the evening peak hour.
- The Oakdale Road/South Project Access intersection will operate at LOS E/F during the morning peak hour and LOS F during the evening peak hour.

- The Roselle Avenue/Highway Commercial Access intersection will operate at LOS E during the morning peak hour and LOS F during the evening peak hour.

This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.

Mitigation

14. When traffic volumes warrant signalization, the Crossroads Community developers shall install a traffic signal at the Oakdale Road/South Project Access intersection. Other intersection improvements include dual left-turns exiting the plan area, with an exclusive northbound right-turn lane into the plan area from Oakdale Road. In addition to the free right-turn lane, a shared through plus right-turn lane should be provided on the northbound Oakdale Road approach into the plan area.
15. When traffic volumes warrant signalization, the Crossroads Community developers shall install a traffic signal at the Roselle Avenue/Highway Commercial Project Access intersection.

Mitigations for the project's cumulative impacts are found in the cumulative discussion in Section 3 of this EIR.

Impact

Access to the highway commercial area in the southeast corner of the plan area is expected to have access problems as traffic in the region increases.

Under short term (i.e. existing plus project) conditions, these two closely spaced intersections may operate satisfactorily if coordinated. However, as traffic volumes in the area increase, the spacing between Claribel Road and the access to the highway commercial becomes more critical, especially with a high generating use such as the highway commercial occupying the site.

This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.

Mitigation

16. Future developers shall locate the access road to the highway commercial off of Roselle elsewhere on Roselle Avenue such that in the cumulative development scenario, access to the shopping center is not limited to right turns in and out only. The future location of an access road shall be based on the premise that left and right turns into and out of the highway commercial area are mandatory.

2.6 Air Quality

This section is based on the air quality report prepared by Don Ballanti, Certified Consulting Meteorologist in November 1994. This report is summarized herein and is included in Appendix D of this EIR.

Environmental Setting

Regulatory Background

Federal Policies. Transportation-related impacts on air quality are regulated by various federal statutes, including the Clean Air Act of 1970, the Federal Aid Highway Act of 1970, and the Federal Clean Air Act Amendments (FCAAA) of 1990. As required by the Federal Clean Air Act, the United States Environmental Protection Agency (U.S. EPA) has established National Ambient Air Quality Standards (NAAQS) for harmful pollutants determined to be injurious to public health or welfare. There are both primary and secondary ambient air quality standards. Primary standards are designed to protect public health, with a margin of safety. Secondary standards are designed to protect public welfare, in addition to health, and are therefore more stringent than primary standards. These standards define emission levels that have been shown to be acceptable for all segments of the public and which will have no long-term undesirable effects on health, aesthetic values, or property.

The U.S. Clean Air Act of 1970 requires each state to identify areas within its borders that do not meet federal primary standards as nonattainment areas. The federal Clean Air Act required the preparation of an attainment plan showing how the federal standards were to be met by 1987. Stanislaus County was one of many nonattainment areas in California that failed to meet the federal ambient air quality standards by 1987. "Nonattainment" means that the federal and/or California ambient air quality standards concentration for a specified criterion air pollutant was exceeded at least once per year averaged over the last three years, and is a designation of a geographic area assigned by the U.S. EPA or CARB. (APCD 1994).

The FCAAA of 1990 requires that new nonattainment plans be prepared and submitted to the U. S. Environmental Protection Agency. The San Joaquin Valley Unified Air Pollution Control District (APCD) has recently adopted federal nonattainment plans for suspended particulates of 10 microns or less (PM₁₀) and ozone (O₃). The APCD is the local agency empowered to regulate air quality in the Stanislaus County Area.

The air basin is a "nonattainment" area for the federal ambient air quality standards for ozone and PM₁₀. By virtue of the state ambient air quality standards being more stringent than the federal standards, the air basin is also a "nonattainment" area relative to state standards.

In response to the federal nonattainment status, the APCD has developed the *Ozone Attainment Demonstration Plan* (San Joaquin Valley Unified APCD 1994) and

the *1994 Serious Area PM10 Plan*. These plans outline how the APCD will reach conformance with the federal standards.

As a federally designated "serious" nonattainment area, the APCD is required under the FCAAA to attain the national ozone standard as expeditiously as possible, but no later than 1999. In addition, the FCAAA sets December 31, 2001 as the deadline for the APCD to meet federal PM10 standards.

State Policies. The California Clean Air Act (CCAA) of 1988, and state legislation requiring the preparation of congestion management plans, provide further regulation for the State of California. Additionally, the California Ambient Air Quality Standards (CAAQS), as mandated by the California Air Resources Board (CARB), are more stringent than those of the NAAQS.

CARB coordinates and oversees both the state and federal air pollution control programs in California. As part of this responsibility, CARB monitors existing air quality, establishes state standards and limits allowable emissions from vehicular sources. CARB has divided California into 14 single- and multi-county air basins. Authority for air quality management within these basins has been given to local air pollution control districts, which develop nonattainment plans within their jurisdictions.

Under the CCAA, Stanislaus County is considered nonattainment for ozone and PM10. The County is either in attainment or unclassified for other pollutants.

The CCAA requires local air pollution control districts to prepare air quality attainment plans for ozone and carbon monoxide (CO). Generally, these plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods. The Act also grants air districts explicit statutory authority to adopt indirect source regulations and transportation control measures, including measures to encourage or require the use of ridesharing, flexible work hours or other measures which reduce the number or length of vehicle trips.

The *1991 Air Quality Attainment Plan* for the San Joaquin Valley Air Basin identifies 11 Transportation Control Measures (TCM's) as "reasonably available" in the San Joaquin Valley Air Basin. The following TCM's are included in the plan:

- Traffic Flow Improvements;
- Public Transit;
- Passenger Rail Support/Facilities;
- Rideshare Program;
- Suburban Park-and-Ride Lots;
- Bicycling Program;
- Trip Reduction Programs;
- Telecommunications; and
- Alternative Work Schedules.

The plan also proposes an indirect source program consisting of three elements:

- Enhanced District CEQA Participation;
- Air Quality Element for General Plans; and

- New and Modified Indirect Source Review.

The first two of these indirect source measures have been implemented, but no action has been taken on the third.

Regional Policies. The City of Riverbank is within the APCD. The APCD, CARB and the federal government are charged with responsibility for planning and attaining federal and California ambient air standards in the APCD and the San Joaquin Valley air basin which the APCD is mandated to administer. The APCD coordinates its efforts in the Valley with the CARB. Management of air quality is a regional issue, except for CO, which tends to be a localized winter problem (APCD 1994).

The APCD, while having permit authority over stationary emission source projects such as power plants and factories, currently has no such permit authority with regard to mobile-source emission projects such as the implementation of commercial or residential projects which lead to an increase in automobile emissions. However, the APCD provides guidelines for determination of air quality impacts for mobile-source emission projects and suggests mitigation measures which can be implemented at the local government level to offset potentially significant air quality impacts. The APCD suggests that reductions in air emissions due to the implementation of mitigation measures be quantified whenever possible.

Stanislaus County Policies. The Stanislaus Area Association of Governments (SAAG), which is also the local Congestion Management Agency (CMA), adopted the Stanislaus County 1992-93 CMP. The current general plan is subject to provisions of the CMP. The Trip Reduction and Travel Demand Element of the CMP makes local and regional agencies responsible for implementing the TCM requirements of the APCD listed above. However, passage of SB 437 (see section 2.5) precludes enforcement of many of the APCD's activities that would require businesses to implement travel behavior restrictions.

Ambient Air Standards. Federal and state standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM10 and lead. California has also set standards for pollutants not covered by national standards (sulfates, hydrogen sulfide, vinyl chloride, visibility reducing particles). Table 17 illustrates the federal and state ambient air quality standards for major pollutants.

Air Basin Characteristics

The climate of the project area is typical of inland valleys in California, with hot, dry summers and cool, mild winters. Daytime temperatures in the summer often exceed 100 degrees, with lows in the 60's. In winter daytime temperatures are usually in the 50's, with lows around 35 degrees. Radiation fog is common in the winter, and may persist for days. Winds are predominantly up-valley (from the north) in all seasons, but more so in the summer and spring months. Winds in the fall and winter are generally lighter and more variable in direction (CARB 1974).

The pollution potential of the San Joaquin Valley is very high. Surrounding elevated terrain in conjunction with temperature inversions frequently restrict lateral and vertical dilution of pollutants. Abundant sunshine and warm temperatures in summer are

TABLE 17

Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Standard	California Standard
Ozone	1 hour	0.12 ppm	0.09 ppm
Carbon Monoxide	1 hour	35.00 ppm	20.00 ppm
	8 hour	9.00 ppm	9.00 ppm
Nitrogen Dioxide	1 hour	—	0.25 ppm
	annual	0.05 ppm	—
Sulfur Dioxide	1 hour	—	0.05 ppm
	24 hours	0.14 ppm	0.25 ppm
	annual	0.03 ppm	—
Particulates (PM ₁₀)	24 hours	150 mg/m ³	50 mg/m ³
	annual	50 mg/m ³	30 mg/m ³
Lead	30-Day Avg.	—	1.5 ug/m ³
	Month Avg.	1.5 ug/m ³	—

ppm = parts per million; mg/m³ = microns per cubic meter; ug/m³ = micrograms per cubic meter

Source: California Air Resources Board

ideal conditions for the formation of photochemical oxidant and the Valley is a frequent scene of photochemical pollution. Health Effects of Pollutants

The primary air quality problems in Stanislaus County are ozone and PM₁₀. In Stanislaus County, carbon monoxide is a problem only in the Modesto-Ceres urbanized area.

The following section addresses the health effects of these pollutants.

Ozone. Ozone is produced by chemical reactions, involving nitrogen oxides (NO_x) and reactive organic gases (ROG), that are triggered by sunlight. Nitrogen oxides are created during combustion of fuels, while reactive organic gases are emitted during combustion and evaporation of organic solvents. Since ozone is not directly emitted to the atmosphere, but is formed as a result of photochemical reactions, it is considered a secondary pollutant. In the San Joaquin Valley Air Basin, ozone is a seasonal problem, occurring roughly from April through October.

Ozone is a strong irritant that attacks the respiratory system, leading to the damage of lung tissue. Asthma, bronchitis and other respiratory ailments as well as cardiovascular diseases are aggravated by exposure to ozone. A healthy person exposed to high concentrations may become nauseated or dizzy, may develop a headache or cough, or may experience a burning sensation in the chest.

Research has shown that exposure to ozone damages the alveoli (the individual air sacs in the lung where the exchange of oxygen and carbon dioxide between the air and blood takes place). Research has shown that ozone also damages vegetation.

PM10. PM10 is small suspended particulate matter, 10 microns or less in diameter, which can enter the lungs. The major components of PM10 are dust particles, nitrates, and sulfates. PM10 is emitted directly to the atmosphere as a by-product of fuel combustion, wind erosion of soil and unpaved roads. Small particles are also created in the atmosphere through chemical reactions.

Particles greater than 10 microns in diameter can cause irritation in the nose, throat, and bronchial tubes. Natural mechanisms remove many of these particles, but those less than 10 microns in diameter are able to pass through the body's natural defenses and the mucous membranes of the upper respiratory tract and enter into the lungs. The particles can damage the alveoli. The particles may also carry carcinogens and other toxic compounds, which adhere to the particle surfaces and can enter the lungs.

Carbon Monoxide. Carbon monoxide, a colorless, odorless, poisonous gas, is a local pollutant in that high concentrations are found only very near the source. The major source of carbon monoxide is automobile traffic. Elevated concentrations, therefore, are usually found only near areas of high traffic volumes.

Carbon monoxide's health effects are related to its affinity for hemoglobin in the blood. At high concentrations, carbon monoxide reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities.

Carbon monoxide is a wintertime problem in the San Joaquin Valley. This is partly due to the fact that automobiles create more carbon monoxide in colder weather, and partly due to the very stable atmospheric conditions that exist on cold winter evenings when winds are calm. Concentrations typically are highest during stagnant air periods from November through January.

Current Air Quality

The APCD and California Air Resources Board maintain air quality monitoring sites in Stanislaus County. The most current data from Stanislaus County monitoring sites nearest the plan area are shown in Table 18.

Air quality in Stanislaus County generally meets the state and federal ambient air quality standards except for ozone and PM10. Also, violations of the 8-hour ambient air quality standards for carbon monoxide have been recorded, but only within downtown Modesto.

Project Analysis

Standard of Significance. *According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will have a sig-*

nificant adverse impact on air quality, if it will "violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations." Because the only applicable ambient air quality standards that relate to the project are ozone and PM10, the APCD threshold of significance criteria for ozone (55 lb/day) and PM10 (82 lb. day) will be used. For CO, the Standard of Significance is 22 ppm at the receptor location.

TABLE 18

**Air Quality Data for Stanislaus County Monitoring Sites
1991-1993**

Pollutant	Standard	Site	Days Above Standard		
			1991	1992	1993
Ozone	State 1-Hour	Turlock	22	24	15
		Modesto	23	10	13
		Crows Landing	1	--	--
		Westley	0	--	--
Ozone	Federal 1-Hour	Turlock	0	0	2
		Modesto	0	0	0
		Crows Landing	0	--	--
		Westley	0	--	--
PM10	State 24-Hour	Modesto	24	26	16
		Crows Landing	2	--	--
		Westley	5	--	--
PM10	Federal 24-Hour	Modesto	1	3	1
		Crows Landing	0	--	--
		Westley	0	--	--

Source: San Joaquin Valley Unified Air Pollution Control District

Project CO Impacts

On the local scale the pollutant of greatest concern is CO. Concentrations of this pollutant are related to the levels of traffic and congestion along streets and at intersections.

Traffic volumes near the plan area are currently low and the density of development is sparse. It is expected that current levels of carbon monoxide on or near the plan area would be low and well within the state and federal ambient standards.

The CALINE-4 computer simulation model was applied to six major intersections near the plan area to forecast future CO concentrations. These were selected as having high volumes and/or congestion levels and thus represent the expected sites of maximum CO concentrations. The model run used a traffic generation figure provided by the transportation consultant. This figure is 57,451 gross daily trips, with

4,503 and 5,588 gross trips occurring in the A.M. and P.M. peak hours, respectively. The model results were used to predict the maximum 1- and 8-hour concentrations, corresponding to the 1- and 8-hour averaging times specified in the state and federal ambient air quality standards for CO. The CALINE-4 model assumptions made used for this project are described in Appendix D.

The results of the CALINE-4 analysis for peak 1-hour and 8-hour periods in parts per million (PPM) are presented in Table 19. The analysis was carried out with and without the proposed project in the year 2015. The 1-hour values are to be compared to the federal 1-hour standard of 35 PPM and the state standard of 20 PPM. The 8-hour values are to be compared to the state and federal standard of 9 PPM.

Table 19 shows that concentrations are predicted to remain below the state and federal standards. *Therefore, the project's anticipated carbon monoxide concentrations at the studied intersections are considered to be less-than-significant.*

TABLE 19
Worst-Case Carbon Monoxide Concentrations
Selected Intersections for Year 2015
(Parts Per Million)

Intersection	Averaging Time	No Project	With Project
Claribel/Roselle	1-Hour	6.8	6.9
	8-Hour	4.8	4.8
Claribel/Oakdale	1-Hour	6.9	7.0
	8-Hour	4.8	4.9
Patterson/Oakdale	1-Hour	7.0	7.0
	8-Hour	4.9	4.9
Patterson/Roselle	1-Hour	7.1	7.2
	8-Hour	5.0	5.0
Sylvan/Oakdale	1-Hour	7.0	7.0
	8-Hour	4.9	4.9
Claribel/McHenry	1-Hour	7.1	7.1
	8-Hour	5.0	5.0
California Standard	1-Hour	20.0	20.0
	8-Hour	9.0	9.0

Source: Donald Ballanti, Certified Consulting Meteorologist

Project Regional Emission

Vehicle trips generated by the proposed project would result in air pollutant emissions affecting the northern San Joaquin Valley Air Basin. Regional emissions associated with proposed project vehicle use have been calculated using EMFAC7F emission factors and are shown in Table 20. The methodology used in estimating automobile emissions is described in Appendix D.

The air emissions analysis contained in this section represents a worst case scenario, whereby the potential emission reductions associated with the proposed Crossroad Community Design Concepts are not integrated. The design concepts, which are premised on a neo-traditional approach to lot layouts, would result in potential emissions reductions through the following design concepts:

- Establishment of a hierarchy of streets which are interconnected and radiate throughout the community, reinforce the center of the community, and provide a linkage to the surrounding city;
- Provision of a pedestrian-oriented circulation system, with a network of walkways, linear parks, and bicycle paths that link the community together;
- Locating the central commercial area located within one-quarter mile of most residents;
- Establishment of a mix of varied land uses to encourage alternative modes of transportation; and
- Increased density.

Emissions are based on the relationship between different land uses and people's travel behavior, as recently determined in several studies. A 1990 study comparing travel behaviors in several neighborhoods located in the San Francisco Bay area concluded that for each doubling of density, the average vehicle miles traveled (VMT) per person each year is reduced by 25 to 30 percent (Holtzclaw 1990).

Another Bay Area survey concluded that there is a definite relationship between overall population density and increased transit availability and use (Deakin, et al. 1981).

A worldwide study of urban density released in 1990, travel patterns and transportation facilities in 32 major cities, also supports the conclusion that lower level of vehicle use are related to urban form and density (Kenworthy and Newman 1990). This study concluded that there is significant relationship between overall urban density and provision and use of transit, walking and other alternative modes of travel, and away from automobiles (ibid.).

The researchers in the global survey found that for each doubling of population density in cities throughout the world, the average per capita consumption of transportation fuel is reduced between 25 and 30 percent. This reduction is attributed to higher rates of transit use, with walking and bicycling playing lesser though important roles.

Daily emissions associated with proposed residential and commercial uses are also shown in Table 20. Residential uses contain a number of dispersed and intermittent sources of pollutants such as space and water heaters, household paints and solvents, fireplaces and wood stoves, lawn mowers and other equipment. The primary emission source from commercial uses is the combustion of natural gas for space and water heating.

The proposed project would eliminate some existing agricultural air pollutant sources. Agricultural activities generate pollutants through combustion of fuels by farm equipment and vehicles, pesticide application and tilling. Daily per-acre emission rates for agricultural uses were used to estimate the emissions eliminated by conversion of land to urban uses. The methods and assumptions used in developing the emission factor are described in Appendix D. The estimated existing agricultural emissions are also shown in Table 20. This clarifies the net effect of the proposed project on regional air quality.

TABLE 20
Project Regional Emissions
(Pounds Per Day)

Project Emissions	ROG	NOx	PM10
Threshold of Significance	55.0	55.0	82.0
<i>Project Emissions</i>			
• Vehicle Emissions	269.6	396.4	195.1
• Commercial Emissions	1.1	25.4	0.1
• Residential Emissions	228.0	46.3	15.0
Total	498.7	468.1	210.2
<i>Existing Emissions</i>			
• Agricultural Emissions	25.5	55.0	67.6
Net Difference Project Emissions	473.2	413.1	142.6
Does Project Exceed Threshold?	Yes	Yes	Yes

ROG Reactive Organic Gases
 NOx Nitrogen Oxides
 PM₁₀ Particulate Matter, 10 microns

Source: Don Ballanti, Certified Consulting Meteorologist

Based on this information, future development on the plan area is expected to generate emissions that not only exceed existing conditions, but will exceed the threshold levels established by the APCD for these three pollutants. This is considered to be a potential significant impact.

The proposed project incorporates the following measures to reduce air quality impacts:

- Mixed-use Village Centers providing neighborhood commercial uses;
- On-site commercial, recreational, and employment generating uses;
- Higher density residential and other uses in proximity to the Village Center commercial core;
- Compact land use and mixed land use strategies that place residences within walking and bicycling distance to commercial facilities, recreational facilities, employment centers and schools; and
- Bikeways and a trail system to connect residences to the commercial centers.

While these strategies and programs would help to reduce project impacts on regional air quality, the net effect of these strategies and programs would not bring the net project emissions into compliance with the established thresholds for ROG, NO_x, and PM₁₀.

Construction Related Emissions

The project would result in periodic construction activities within the site until build-out occurs. The amount and duration of construction activities at any given time in the future or on any given portion of the site is not predictable, but it is likely that construction activities will be taking place near existing or previously built portions of the site during the build-out period.

Construction activities are a source of organic gas emissions. Solvents in adhesives, non-waterbase paints, thinners, some insulating materials and caulking materials would evaporate into the atmosphere and would participate in the photochemical reaction that creates urban ozone. Asphalt used in paving is also a source of organic gases for a short time after its application.

Construction dust could affect local air quality at various times during construction of the project. The dry, windy climate of the area during the summer months combined with the fine, silty soils of the region create a high potential for dust generation when and if underlying soils are exposed to the atmosphere.

Construction activities also contribute to increased levels of nitrogen oxides and small-diameter particulate matter. Particulate emissions vary from day to day depending on the level of construction activity, the specific construction activities, and the climatic conditions. Construction dust is considered to represent a potentially significant localized and temporary impact if it exceeds 82 lb/day. This threshold is extrapolated from the SJVUAPCD's New Source Review - Rule 2201, which is applicable to stationary sources (Dave Mitchel, pers. com., June 19, 1996). The SJVUAPCD considers project's which result in temporary construction related PM₁₀ emissions to be less-than-significant if the SJVUAPCD's Regulation 8 dust

control measures are implemented (ibid.). These measures include, but may not be limited to, the following:

- a. Water or cover stockpiles of debris, soil, sand or other materials that can be blown by the wind.
- b. Limit or promptly remove any accumulation of mud or dirt on public paved roads, shoulder and access ways adjacent to the site. The use of blower devices is not allowed. The use of dry rotary brushes is prohibited, except where preceded or accompanied by wetting to limit dust emissions.
- c. Cover, wet down, or provide at least 6 inches of freeboard space from the top of the transport container to limit visible dust emissions (specific definition of visible dust shall be obtained from the SJVUAPCD).
- d. Water all inactive portions of the site with an appropriate dust suppressant, covered or seeded.
- e. During rough grading and construction, access to construction sites should require the building of an apron into the plan area from adjoining paved roadways. The apron should be paved or have a petroleum-based palliative applied.

Daily emissions of PM10 for construction activities should be quantified for all future projects. It should be assumed that each acre of grading and excavation will generate 70 lb/day per acre. This assumes 1.2 tons of fugitive dust are generated per acre of construction per month of activity (EPA, AP-42, Vol. I, 1985), 22 working weekdays per month; PM10 comprises 64 percent of fugitive dust (CARB, "Area Source Methodologies, 1991"); the construction operation is considered a "medium activity level" soils contain moderate silt content (30 percent); and the climate is semiarid. Watering grading and excavation areas regularly to control dust emissions can reduce emissions by as much as 50 percent.

Impacts and Mitigation Measures

Impact

The proposed project will result in emissions of ROG and NOx that exceed the APCD's threshold of significance. Implementation of the following mitigation measures will reduce the impacts on air quality associated with future development on the plan area by approximately 10 to 20 percent. However, there is currently no practical way to reduce impacts by nearly 90 percent to bring project impacts below the APCD significance thresholds without eliminating residential areas and/or eliminating commercial areas. *Therefore, the impact of the proposed project on regional air quality is considered an unavoidable significant adverse environmental impact.*

Mitigations

17. Project plans for all proposed gas stations shall include provision for a compressed natural gas fueling station, subject to the review and approval of the APCD and city prior to issuance of a building permit.

18. Crossroads Community developers shall incorporate 50 percent more trees, including existing trees, into landscaped areas than required by the City of Riverbank land-use regulations. These landscaped areas shall be incorporated into the project designs, subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.
19. In anticipation of expanded bus service to the plan area, Crossroads Community developers shall coordinate with the City of Riverbank to determine specifications and locations of bus stops necessary at the plan area. They shall then incorporate these stops into their project designs as easements, which shall be submitted to and approved by the City Planning Director prior to the approval of a final subdivision map.
20. Individual project plans for residential development shall include provisions for electrical recharge outlets conveniently located in all residential garages for electric cars. This requirement shall be included in future development plans, subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.
21. If the Crossroads Community developers proposing residential development propose to install fireplaces, they shall be required to install EPA-certified wood stoves, pellet stoves or fireplace inserts instead of conventional open-hearth fireplaces. The use of natural gas-fired fireplaces should be encouraged. This requirement shall be subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.
22. Crossroads Community developers proposing residential development shall provide outdoor electrical outlets at residences to allow use of electric lawn and landscape maintenance equipment. This requirement shall be subject to the review and approval of the city Planning Director prior to approval of a final subdivision map.
23. Crossroads Community developers proposing residential development shall make natural gas available in residential backyards to allow use of natural gas-fired barbecues. This requirement shall be subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.

Recommendation: Crossroads Community developers should prepare a Transportation Demand Management (TDM) program that incorporates feasible trip reduction measures into the design and operation of all segments of the proposed project. Potential trip reduction measures include, but are not limited to the following:

- a. Assignment of a transportation management coordinator to oversee the implementation of Trip Reduction Programs in both industrial and residential areas;
- b. Implementation of carpool incentives;
- c. Inclusion of bicycle racks, lockers and showers in the design of project employment centers;

- d. Installation of transit shelters as transit routes are expanded into the study area in the future, and subsidization of a portion of the cost of transit passes to encourage ridership;
- e. Contribution to the cost of developing or expanding park and ride facilities near major commute routes. The level contribution should be equivalent to the overall number of project park and ride participants; and
- f. Establishment of, or contributions towards, a tele-commuting center to facilitate the use of tele-commuting as an option to the automobile.

Impact

The construction activities will result in fugitive dust emissions which must be reduced to the lowest level feasible through implementation of SJVUAPCD Regulation 8. With implementation of dust control measures, the SJVUAPCD does not consider the impact to be significant.

Mitigation

24. Contractor specifications for any proposed construction project shall include the SJVUAPCD dust control measures and shall be printed on or affixed to plans to be submitted to the Building Department for review and approval prior to issuance of a grading permit for each specific development project. The following SJVUAPCD emission reduction measures shall be implemented:
 - Suspend earth moving or other dust-producing activities during periods of high winds when dust control measures are unable to avoid visible dust plumes.
 - Provide equipment and staffing for watering of all exposed or disturbed soil surfaces sufficient to suppress dust plumes, including weekends and holidays. An appropriate dust palliative or suppressant, added to water before application, should be utilized.
 - Water or cover stockpiles of debris, soil, sand or other materials that can be blown by the wind.
 - Sweep construction area and adjacent streets of all mud and debris, since this material can be pulverized and later re-suspended by vehicle traffic.
 - Limit the speed of all construction vehicle to 15 miles per hour while traveling on unpaved surfaces.
 - Water all inactive portions of the site with an appropriate dust suppressant, cover, or seed them.
 - During rough grading and construction, access to construction sites should require the building of an apron into the plan area from adjoining paved roadways. The apron should be paved or have a petroleum-based palliative applied.

Recommendation

Any extra effort on the part of future developers to limit particulate emissions in the air basin is encouraged for the health and welfare of San Joaquin Valley residents. Though it is not a requirement of the air district, future developers are encouraged to not unnecessarily grade large areas of land and leave them exposed. Consideration should be given to grading only those areas proposed for immediate development. If feasible, future developers should consider limiting disturbed areas that require surface grading to approximately 2.5 acres on any given day. This acreage is premised on a 70 lbs. per acre per day rough estimate of particulate emissions associated with grading operations, and the Environmental Protection Agency's estimate that dust control measures such as watering can reduce emissions by approximately 50 percent. By limiting the acreage disturbed on any particular day, the 82 lbs. per day threshold discussed previously can be attained.

2.7 Land Use Compatibility

This section discusses the compatibility of the proposed project with existing and future land uses surrounding the plan area.

Environmental Setting

North of the plan area, to the north of Morrill Road and between Oakdale Avenue and the MID irrigation canal, lies the Stonebridge Subdivision. To the northeast of the plan area, across the MID main irrigation canal, is a mobile home park and the Blossom Residential Subdivision. The southeastern portion of the proposed plan area is bordered by large properties with ranchette type houses. Across Oakdale Road, to the west of the site lies farmland which is designated as residential reserve. This land is currently within Stanislaus County and supports row crops and orchards.

The City of Modesto Sphere of Influence borders the proposed plan area to the south across Claribel Road. This land is currently designated as an urban transition zone and consists of agricultural uses.

The city has designated in its general plan the area west of the proposed plan area as Residential Reserve. These areas shall be approved and amended in the general plan on the basis of neighborhood residential development (City of Riverbank General Plan). This area is intended to eventually become single-family residential with a mix of neighborhood commercial use to serve the residential needs. Because the area west of the proposed plan area is outside of the city's current Sphere of Influence, and the general development pattern in the near future appears to be between the cities of Riverbank and Modesto, protection of this area for its agricultural production is important.

According to the Stanislaus County General Plan the area west of the plan area is designated as an "Urban Transition" area. This designation is given to ensure that the 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 by a city. This area is also designated as an urban transition area. This area will remain in agricultural use until planned development, consistent with a general plan, occurs.

Project Analysis

Standard of Significance. According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will conflict with adopted environmental plans and goals of the community. In this case, the applicable goal of the community is policy B-2 of the Open Space element of the General Plan. This policy states that annexations shall be designed to minimize the conflict between urban development and agricultural land. For the purposes of this EIR, the potential conflict is between the proposed project and properties outside the proposed project boundaries to the west and south.

The area immediately to the north of the proposed plan area contains single-family residences, which are being constructed or will be developed in the near future. These residences will be similar in density to the proposed project. This land use is compatible with the proposed project.

The area to the east of the plan area (east of Roselle Avenue) contains large acre parcels. Although the neighborhoods will be different in density and character, they will contain similar land uses as currently allowed by the general plan. This land use is compatible with the proposed project.

The area to the south of the proposed plan area currently consist of farmlands with row crops and orchards, vineyards and pasture land. This area is within the City of Modesto's Sphere of Influence (a.k.a., Planned Urbanizing Area) and is separate from the Crossroads Community by the 135 foot Claribel Road R.O.W. and 25 foot setback. Additional barriers include landscape, walls and/or fences.

The area to the west is outside of the sphere and is forecasted to remain in agricultural production for the near future. However, the city's general plan identifies the area as "Residential Reserve". This area is separated from the Crossroads Community by the 124 foot Oakdale Road R.O.W. and 20 foot setbacks.

Agricultural operations typically involve noise, dust, smells and application of chemicals. Noise is sporadic and generally associated with farm equipment such as tractors. Dust is typically associated with farm equipment traveling over exposed soils and/or grading. Smells are associated with chemicals, fertilizers and vegetation. Chemicals applied may result in health hazards under certain conditions.

Separating the adjoining areas described above from the proposed project are the four roadways that delineate the plan area. Of the four roadways, Oakdale Road and Claribel Road act as a buffer between residential and existing large acre tracts of agricultural land to the west and south, respectively. As the project develops, Oakdale and Claribel Roads will be expanded, thus creating a larger buffer between land uses.

On the south side of the proposed project is the proposed regional commercial and highway commercial developments. These type of developments are typically associated with expanses of parking area fronting major roadways. These parking areas will also work as buffers between land uses.

The residences fronting Oakdale Road on the west side of the proposed project are the closest residences to agricultural land uses and will be the most likely to experience the noise, dust and smells that could emanate from neighboring agricultural operations.

Impact

Agricultural properties to the west and south are most likely to continue agricultural operations in the near future (up to the year 2030) and are expected to be subject to urban pressures that are manifest through the request to curtail agricultural operations that generate noise, dust, smells and require application of chemicals. The potential for future resident's of the proposed project to interfere with the agricultural operations does exist. *This is considered to be a potentially significant impact.* However, with the combination of roads, roads R.O.W., buffer areas and features and parking lots as land use separators, the impact is considered to be less than significant. Furthermore, in the interim period as the area coverts to urban use, the county's right-to-farm ordinance (Stanislaus County Code, Chapter 932) will remain in effect, whereby future homeowners are notified of existing agricultural operations and its concurrent potential nuisances.

2.8 Visual

Environmental Setting

The 687-acre plan area is currently used for pasture, orchard, and 118 single-family residences. Generally, the view of the site from all sides is considered rural and/or agricultural.

The plan area is flat, varying only five feet from the highest point at 125 feet above sea level, to the lowest point at 120 feet above sea level. It is bisected by two water easement canals: a 110-foot wide Hetch-Hetchy Water and Power easement, owned and operated by the City and County of San Francisco, and the MID Lateral #6 irrigation canal easement, which varies in width from 100 feet to 130 feet. The plan area is bounded by Roselle Avenue and Oakdale road to the east and west and Morrill Road and Claribel Road to the north and south, respectively. Views of the plan area from the surrounding roadway system are generally unobstructed.

Visual features on the plan area are predominantly agricultural. Only in areas where single-family housing units are located is there artificial light and glare.

Project Analysis

Standard of Significance. According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will have a substantial, demonstrable negative aesthetic effect on the existing visual environment. To determine visual impacts requires a subjective interpretation of the visual resource. For example, a view of Yosemite Valley is considered a visual experience worthy of protection. On the other hand, 687 relatively flat acres interspersed with 119 dwelling units surrounded by a mix of pasture, orchard, and lots with tall brush and grasses do not justify the same level of consideration by a public agency because they are a common sight.

Build-out of the proposed project will transform 633 acres of the 687 acre rural plan area to an urban environment (54 acres are already developed). This is not considered to be a potential significant impact. No mitigation is warranted. However, it should be noted that the Crossroads Community Specific Plan includes substantial amenities for plan area roadways (trees and landscaping, as well as design guidelines for buildings on the plan area).

2.9 Noise

Environmental Setting

Regulatory Setting

In California, cities and counties are required to adopt a noise element as part of their general plan. The Crossroads Community Specific Plan defers to the existing Riverbank General Plan Noise Element. The goals and objectives of the general plan noise element are:

1. Provide sufficient noise exposure information in the general plan so that existing and potential noise impacts may be effectively addressed in the land use planning and project review processes;
2. Develop and implement effective strategies to abate and avoid excessive noise exposures in the community by requiring that effective noise mitigation measures be incorporated into the design of new noise generating and new noise-sensitive land uses;
3. Protect areas within the city where the present noise environment is deemed acceptable; and
4. Protect areas within the city which are deemed noise-sensitive.

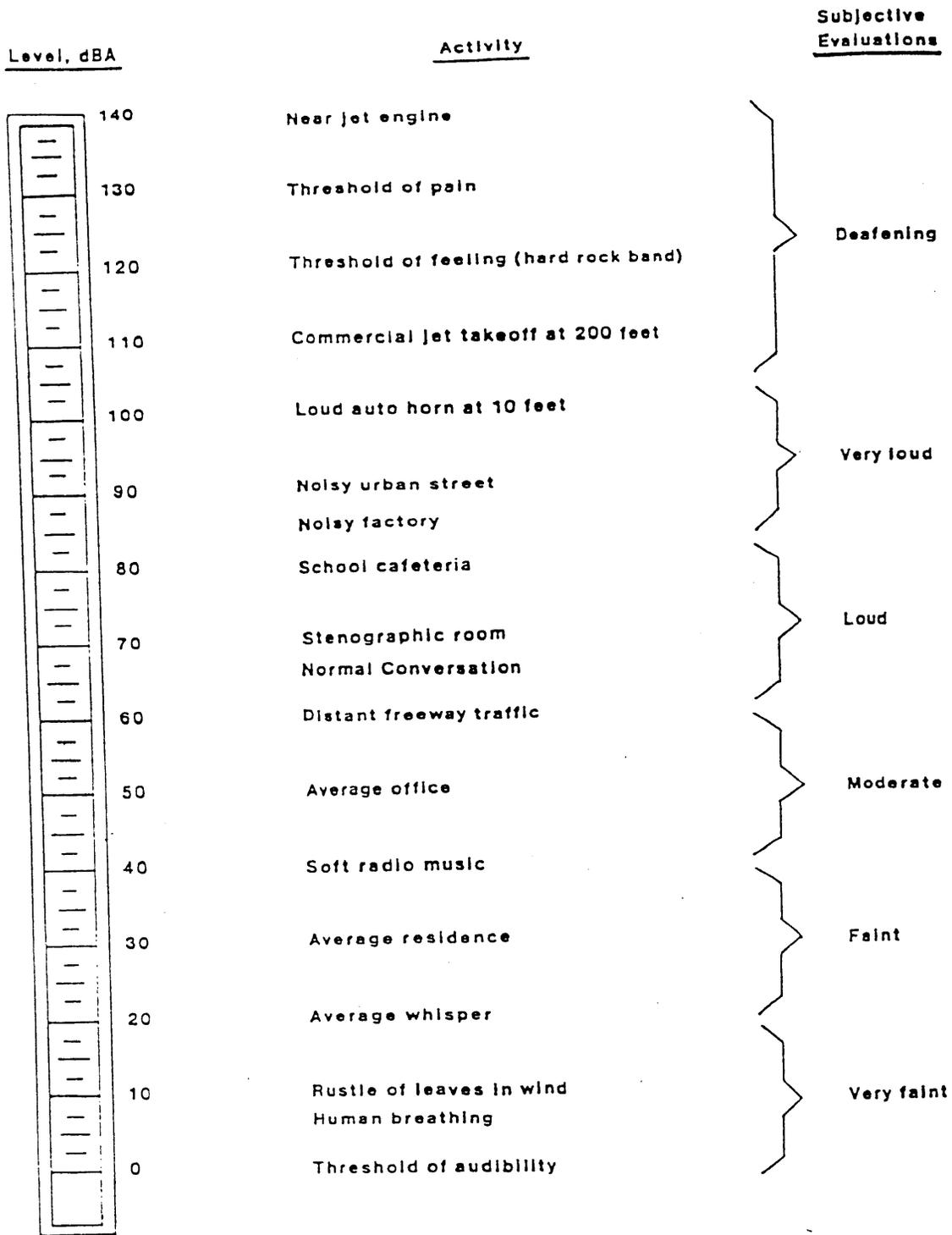
Policies specific to the project include the following:

- Areas within the city exposed to existing or projected future exterior noise levels exceeding 60 decibels (dB) Ldn (day/night average noise level) shall be designated "noise impacted areas."
- New development of residential or other noise sensitive land uses will not be permitted in "noise impacted areas" unless effective mitigation measures are incorporated into the project design to reduce noise levels in outdoor activity areas to 60 dB Ldn or less and interior noise levels to 45 dB Ldn or less. In areas where it is not possible to reduce exterior noise levels to 60 dB Ldn or less using a practical application of the best available noise reduction technology, an exterior noise level of up to 65 dB Ldn will be allowed. Under no circumstances will interior noise levels exceeding 45 dB Ldn with the windows and doors closed be permitted.
- The city will enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code (UBC) concerning the construction of new multi-family dwellings such as hotels, apartments and condominiums within noise-impacted areas.
- Noise level criteria applied to land uses other than residential or other noise-sensitive uses shall be consistent with recommendations of the California Office of Noise Control.

Terminology and Background Information

The perceived loudness of sound is dependent upon many factors, including sound pressure level and frequency content. However, in the range of usual environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighting the frequency response of a sound level measurement device (called a sound level meter) by means of the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed in dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. In terms of community response, it is generally the case that a change in noise level of at least 5 dBA is required before any noticeable change in community response would be expected. A 10 dBA change in noise level is perceived as being subjectively a doubling in loudness, which would likely result in an adverse public reaction. Typical A-weighted sound levels generated by noise sources commonly found in the community are illustrated in Figure 12.

It is common to describe community noise in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent energy sound level known as Leq , which is the sound level corresponding 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 Leq is the foundation of the composite noise descriptors such as Ldn and CNEL (Community Noise Equivalent Level) and shows very good correlation with community response to noise.



Source: M. David Egan, FAA Data



A Land Use Planning and Design Firm

City of Riverbank
 Crossroads Community Specific Plan EIR
Sound Levels

Figure
 12

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The two most common noise descriptors in use today are the Ldn and CNEL scales. The Ldn is based upon the average hourly Leq over a 24-hour day, with a 10 decibel penalty applied to nighttime Leqs. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were subjectively twice as loud as daytime exposures.

CNEL is also based upon the average penalty of approximately 4.5 decibels. It is also applied to the evening hourly Leqs. The CNEL scale was developed for the California Airport Noise Regulation, and is applied specifically to airport noise assessment. The Ldn scale is a simplification of the CNEL concept.

For a given situation, the two scales will generally agree within plus or minus 1 dB. Like the Leq, these descriptors are averages and tend to disguise variations in the noise environment. Furthermore, because they presume an increase of evening or nighttime sensitivity, they are best applied as criteria for land uses where nighttime noise exposures are critical to the acceptability of the noise environment, such as residential developments.

The general plan contains projected noise contours for Oakdale Road, Roselle Avenue and Claribel Road. However, because these contours are based on 1985 cumulative traffic forecasts for the project area for the year 2000 only, and because the traffic report prepared for the proposed Crossroads Community project (November 1994) indicates a higher level of traffic on these roadways for 1995 conditions than were forecasted in the general plan for the year 2000, the year 2000 noise contours in the general plan are no longer relevant. It is important to note that in 1985, the projected growth rate used in the noise contour analysis was 3.6 percent per year averaged over approximately six years (City of Riverbank *General Plan, Noise Element*, 1985). Regardless of the general plan year 2000 projected noise contours, future development on the proposed plan area will be required to forecast a traffic scenario for the year 2020, the year the project is expected to be build-out. Implementation of noise policies in the Crossroads Community Specific Plan addresses required future noise contour analysis.

Existing Noise Conditions

The noise environment on the 687-acre plan area reflects the current rural residential and agricultural land uses and the primary external source of noise which includes Roselle Avenue, Morrill Road, Oakdale Road and Claribel Road, and occasional aircraft fly-bys. Though existing ambient noise levels have not been measured on the plan area for use in this analysis, based on the current land uses, the current ambient noise level is expected to be within the normally acceptable noise exposure for residential land uses (less than 65 dB). Furthermore, there is no evidence of continued and excessive noise levels that would indicate the noise levels on the plan area would exceed the normally acceptable range for a significant period of time (Eugene Palazzo, pers. com., July 7, 1995).

The nearest railroad is approximately three-quarters of a mile east of the plan area (about 4,000 feet). Based on the Noise Element of the general plan, the anticipated year 2000 60 dB noise contour will be about 900 feet from the center line of the

track. Therefore, the railroad is not considered to be a significant source of noise. Agricultural operations will be an intermittent source of noise with peaks during the agriculturally active periods of the year and will include operations of heavy trucks and machinery, which add to ambient noise levels. Since these noise sources are seasonal and intermittent, they cannot be expressed in terms of absolute noise levels. Because the agricultural operations in the project vicinity are limited to pasture and orchard uses, which typically require less mechanization to maintain and harvest, the ambient noise levels are expected to be lower than noise levels associated with row crop operations.

Noise Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others, such as residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, parks and outdoor recreation areas. These land uses are generally more sensitive to noise than are industrial or commercial land uses because the extent of noise exposure and the types of activities typically involved with such land uses is not conducive to noise intrusion.

The only sensitive receptors in the project area are the existing 91-unit subdivision and 27 scattered rural dwelling units on the site subject to noise from the four roadways that surround the plan area.

Project Analysis

Standard of Significance. According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will increase substantially the ambient noise levels for adjoining areas, and/or if it will conflict with the adopted environmental plans and goals of the community where it is located. The noise element of the general plan specifies that the normally acceptable range for residential land use is no greater than 65 dB Ldn, and areas with noise levels exceeding 60 dB Ldn are designated as noise impacted areas requiring mitigation.

The noise element of the general plan indicates that residential and other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated in the project design. Areas with noise levels exceeding 60 dB Ldn are designated as noise-impacted areas requiring mitigation.

Due to project design, there will be residential, commercial and business park land uses in proximity to the expressway, arterials and collectors within and around the proposed plan area.

External Circulation System

The *Stanislaus County Expressway Study* indicates that Claribel Road could be phased in as a Class C four-lane expressway by the year 2000, with upgrades to a Class B four-lane expressway by the year 2010, after which it would require an upgrade to the Class A expressway.

The ultimate configuration of a Class A expressway includes a 134-foot right-of-way with six 12-foot travel lanes, a 22-foot median, and 40 feet for shoulders and buffers. To accommodate the planned interchanges at the Claribel Road/Oakdale Road and Claribel Road/Roselle Avenue intersections, a 158-foot right-of-way measured 1,000 feet from the intersection on each side of the roadway is planned.

According to the Expressway Study, Class B expressways do not require interchanges. Therefore, development of the interchange on Claribel Road will not occur until the roadway is upgraded to Class A in the year 2010.

To mitigate noise and visual impacts from the future Claribel Expressway, a 25-foot greenway buffer on the north side is planned along the expressway. This buffer is proposed in the Crossroad Community Specific Plan to include a Class 1 bikeway and landscape plantings. The planned highway commercial fronting Claribel Road is an appropriate use for an expressway. Where low to medium residential is proposed near Claribel Road, future construction may be required to be setback from Claribel Road and/or construction of future residential units may need to accommodate anticipated noise levels that exceed the city standard.

The general plan designates Oakdale Road and Roselle Avenue as "arterials." The right-of-way for Oakdale Road is 124 feet and ultimately will include six travel lanes with a landscaped median, a landscaped shoulder buffer which accommodates a drainage ditch, a Class 1 bike path and emergency parking shoulders. The right-of-way for Roselle Avenue is 114 feet and includes four travel lanes, a Class 1 bike path, a landscaped median, a landscaped shoulder buffer, and space to accommodate a future light-rail line or express bus service. The Crossroads Community Specific Plan includes an additional 10 feet of right-of-way to accommodate these uses.

Morrill is a designated collector street. Morrill Road is proposed to be completed as a parkway, with a 60-foot right-of-way.

Internal Circulation System

The proposed internal circulation system includes a hierarchy of interconnected streets, to include neighborhood collectors and minor streets. These streets will bring traffic and its associated noise into the central area of the Crossroads Community. The primary collector street (neighborhood collector) is Crawford Road, which is considered to be the primary potential source of significant noise within the plan area. Crawford Road is proposed to have a 76-foot right-of-way, with two travel lanes, a landscaped median, sidewalks, and a Class II bike path on each side. The pedestrian paths are separated from vehicle traffic by six-foot landscaped strips. Minor internal streets are not considered to be a potential significant source of noise. One major neighborhood collector street with a east-west alignment in the in the area of proposed future regional commercial/business park, will be four lanes.

Construction Related Noise

Future development within the plan area is expected to result in intermittent construction activities that would generate relatively high noise levels on and immediately adjacent to construction sites. However, construction-related noise would be intermittent and temporary and would not cause any long-term noise impacts requiring mitigation. Regardless, all equipment is required to be operated in an optimal condition which will minimize construction-related noise (see mitigations in section 2.8, Air Quality).

Impacts and Mitigation Measures

Impact

Future land uses in the Crossroads Community will be subject to increased vehicle traffic noise. *This is considered to be a potentially significant environmental impact. However, implementation of future noise contour studies to be prepared by future developers will provide the necessary information to be used by developers in determining the appropriate building setback and/or building design characteristics that will reduce the potential impact to a less-than-significant level.*

Mitigation

25. Crossroads Community developers proposing development adjacent to Morrill, Roselle, Oakdale, and Claribel Roads and development adjacent to the Major Neighborhood Collectors and the Neighborhood Collectors (designated Primary Neighborhood Collectors only) located within the project, shall conduct acoustical analyses. Such analyses shall determine the potential future noise contours for these roadways using the best available SAAG Model Land Use Listing and similar planning forecasting models. Proposed structures that would be located within areas that exceed the Riverbank General Plan noise standards (outdoors: 60 dB; indoors: 45 dB) shall be required to provide appropriate mitigations such as setbacks, building design measures, and/or sound walls, subject to review and approval of the planning director prior to issuance of a building permit.

Secondary Impact from implementation of mitigation: Soundwalls are one-dimensional and unarticulated monolithic structures. This is considered to be an objectionable and potentially significant negative aesthetic impact.

Mitigation for secondary impact: The city shall require of all developers proposing soundwalls to submit soundwall design plans to the City of Riverbank Planning Director for review and approval. Soundwall design plans shall be integrated with a landscaping plan that incorporates a variety of vegetation (species and heights). Wall designs shall include surface relief features (e.g. sconces) such as wood, steel or concrete affixed to the outer wall. Such features could be free-standing trellises straddling soundwalls (or attached to walls). Straight lengths of wall exceeding 50 feet without relief such as those described above shall not be permitted.

2.10 Public Facilities and Services

The purpose of this section is to analyze the public facilities which will serve the residents of the Crossroads Community. It is also necessary to analyze the integration of the Crossroads Community public facilities into the existing city infrastructure, as well as to define any special concerns relating to the proposed project.

This section is divided into the following areas: sewer, water, police protection, fire protection, schools, parks and recreation, and other public services. Storm drainage is addressed in section 2.3.1.

The public facilities needs for the proposed project have been determined through a series of studies, the first of which was the *Riverbank Village Specific Plan Municipal Space Needs Analysis* (EMC Planning Group Inc. 1991). This analysis used the existing Space Needs Assessment, prepared by the city in 1986, to project the municipal space needs of the city hall and the police department. This needs analysis assumed that build-out of the proposed project would increase the city's population by a maximum of 12,000 people for a total population of 25,000 in the year 2005.

Other studies to determine the need for public facilities included the *Riverbank Village Specific Plan Infrastructure Report* (Thompson-Hysell Inc. 1991), and the *City of Riverbank Wastewater Treatment Plant Master Plan* (Nolte and Associates 1991). These reports determined the need for specific utility requirements for Riverbank Village. In addition, the need for specific public facilities were identified by affected private and city departments.

2.10.1 Sanitary Sewer Service

This section is based on the *City of Riverbank Wastewater Treatment Plant Master Plan*, prepared by Nolte and Associates in May 1991 and the *Riverbank Village Specific Plan Infrastructure Study* prepared by Thompson-Hysell, Inc., in June 1991. These documents are incorporated herein by reference and are available at the City of Riverbank City Hall. The sewer system capacity figures have been updated by city staff to reflect development that has occurred in the city since 1991. The following discussion summarizes these reports.

Environmental Setting

Sewer service is provided to the plan area by the City of Riverbank. The city's Wastewater Treatment Plant provides service to a population of approximately 13,350 (City of Riverbank) and one large food processor (a cannery).

The cannery, formerly owned by Contadina Foods, is now owned and operated by Gangi Brothers Packing Company. Historically, the cannery produces large amounts of wastewater discharge in the summer months. In general, when domestic wastewater only is discharged to the plant, the facility is relatively under loaded with 1-2 aerators (out of 11 existing aerators) in operation in the summer aeration cell

(SAC). However, when the cannery discharges wastewater to the plant, nine aerators must be operational to maintain the required treatment plant performance.

Wastewater treatment for the city occurs in an aerated pond plant. The plant is regulated by the California Regional Water Quality Control Board, Central Valley Region under Order No. 85-189. Current capacity of the city's primary treatment plant is 7.5 million gallons per day (mgd) (Gene Palazzo, pers. com., June 26, 1995), while current operating levels run at approximately 4.0 mgd with seasonal cannery flows and approximately 1.8 mgd without cannery flows (Randal Dodd, pers. com., July 15, 1996).

Approximately 62 acres of the plan area (10 percent of the plan area) have been included in the sewer master plan watershed. This area is located adjacent to Morrill Avenue at the northwest corner of the plan area. However, in response to the anticipated growth of the city and projected increases in cannery production, a treatment plant master plan was developed to identify required facility improvements that encompass future development in the city's sphere (Nolte and Associates 1991). The report states that connection to the existing 12-inch line in Oakdale Road was planned for this area. Upgrading of the existing sanitary sewer pump station at Silverock Street/Oakdale Road would be necessary to use the 12-inch line. Existing sewer system improvements in the project vicinity also include an 18-inch line along Roselle Avenue. The 62 acres could theoretically be developed as part of a phased development, whereas property in this area could be developed first because of the existing infrastructure and the minimum infrastructure improvements required to accommodate development.

The 1991 Nolte report states that the treatment plant has a remaining capacity to accommodate 5,300 additional single family dwelling units. However, because of the variable nature of cannery wastewater discharges and the difficulty in limiting daily peaks, and inadequate number of aeration ponds to support effluent from 5,300 additional units, the facility as currently configured can only accommodate an additional 1,800 single family dwelling units (Nolte 1991). If additional aeration ponds were constructed, 6,400 new dwelling units could be accommodated (Nolte 1991). To date, the additional aeration ponds required to increase the additional capacity above 1,800 have not been installed.

In 1991, the Nolte study indicated there were 2,500 houses in Riverbank. As of July 1996, there are currently 3,734 houses (Palazzo, Eugene, Planning Director, City of Riverbank. Letter to Matthew Sundt, subject: Responses to questions, dated August 2, 1996). This represents an increase of 1,234 units since 1991. In addition, the city has approximately 461 approved residential units which have not been recorded. Therefore, of the 1,800 unit capacity available, there remains capacity for approximately 105 additional dwelling units at this time. This assumes that no new aeration ponds have been added. Therefore, the treatment plant with its existing aeration ponds has inadequate capacity to accommodate the Crossroad Specific Plan project. Additional aeration capacity at the plant will be required to accommodate the proposed project.

Project Analysis

Standard of Significance. *According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will extend a sewer trunk line with capacity to serve new development, and if a proposed project will exceed trunk line capacity and sewer plant capacity.*

Wastewater Generation Rates

An estimate of the amount of sanitary sewage expected to be generated from project build-out is illustrated in Table 21. Based on the information included in the Crossroads Community Specific Plan, the total daily average sewage generation rate is estimated to be 1.031 mgd. The total peak flow used to calculate pipe sizes, including an estimated value for infiltration/inflow, is projected at 2.337 mgd.

Wastewater Collection System

The city must provide the sanitary sewer infrastructure needed to meet the demands of the proposed project. The city has recommended that a trunk line extending from the headworks near the Stanislaus River south-westerly to the plan area be installed to serve the proposed project and future outlying development.

Based on the 1991 Thompson-Hysell report, the trunk line should be 30 inches in size to accommodate project build-out (which will feed into the city's wastewater treatment plant). The 30-inch trunk line will also accommodate an additional 1,600 acres of development, of which 62 acres are within the plan area. This development is accounted for in the City's Wastewater Treatment Plant Master Plan (Nolte 1991). Future developments using this line should be assessed a reimbursement fee payable to the proponents of the proposed project.

Wastewater collection lines must be installed throughout the plan area, with a smaller size line (18 to 21 inches) than the proposed trunk line, sufficient for the collection system. Installation of these facilities should be phased as development is permitted. As more detailed infrastructure plans are being developed, details of line sizes and the need for additional pump stations will be reviewed by the City Engineer.

Wastewater Treatment Plant

The wastewater generated in the project area will be treated at the city's existing treatment plant which screens wastewater prior to treatment in a SAC consisting of 11 aerators. Following treatment, wastewater is routed to a series of summer holding ponds prior to release to four 6.6-acre percolation ponds where it percolates back into the water table.

TABLE 21
**City of Riverbank Crossroads Community Specific Plan
Wastewater Generation Estimates**

Land Use	Acres	Wastewater Generation Factor (gdac)*	Flow (MGD)
Rural to Low Density Residential	8.5	2100	0.018
Low to Medium Density Residential	296.0	2100	0.622
Low/Medium/High Density	19.5	3000	0.059
Medium to High Density Residential	10.0	3700	0.037
Senior Housing	4.0	6800	0.027
Village Commercial	2.0	2400	0.005
Highway Commercial	20.0	2400	0.048
Regional Commercial/Business Park	67.0	2400	0.161
Elementary School/Neighborhood Park	21.0	1400	0.029
Community Serving Park	9.0	500	0.005
Bicycle/Pedestrian Trail	25.0	0	0.000
Village Public/Quasi-Public	2.0	2000	0.004
Modesto Irrigation District	17.0	1000	0.017
Roads	139.0	0	0.000
Canals	47.0	0	0.000
Subtotal	687.0		1.031
With Peaking Factor = 2.0			2.062
Infiltration/Inflow	687	400	0.275
Total			2.337

* gdac = gallons per day per acre

Source: O'Dell Engineering

The Wastewater Treatment Plant Master Plan identifies a need to expand the current plant to incorporate an additional two to eight aerators during the 20-year planning period. These aerators would allow the existing plant to accommodate an additional 6,400 residential units, or its equivalent in other land uses such as commercial uses, as well as the varying flows resulting from cannery operations. The Crossroads Specific Plan is projected to result in using the equivalent of 2,036 residential units of this remaining capacity (not counting commercial uses).

Further, prior to expanding the wastewater treatment plant to accommodate future development, the city should evaluate current operations to determine whether a

more efficient and lower maintenance system could be implemented to accommodate future development in the city. As stated in the wastewater treatment plant master plan, this can be accomplished with the addition of two new aerators to the current system. In addition, expansion of the two "Head Works" in River Cove, located at the entrance to the wastewater treatment plant, will need to be studied to determine whether the developer should contribute a proportionate share of the cost for this expansion. Environmental evaluation of the wastewater treatment plant expansion and trunk line extension is to be conducted as an element of future plant expansion and is independent of this environmental evaluation.

Summary

Based on the 1991 Nolte report that only 1,800 single family dwelling units can be currently accommodated by the present configuration of the wastewater treatment facility, only 105 additional dwelling units can be added at this time.

Build-out of the proposed project will require the expansion of the wastewater treatment plant and extension of infrastructure to the plan area. To ensure that adequate capacity is available, the proposed project includes several programs that require the proponents of future development on the plan area to dedicate easements to the city to provide sewer infrastructure facilities as indicated in the infrastructure study and plan for services. The city will be responsible for determining the appropriate sewer infrastructure required to accommodate each phase of development on the plan area, and the city and the proponents of the proposed project will be required to develop an infrastructure phasing program to prioritize which sewer facilities must be in place prior to specific phases. The design and placement of sewer facilities must adhere to the city's design criteria and will be incorporated into the final improvement plans for each phase of development, subject to review and approval by the City Engineer.

The proposed project will generate approximately 1.031 mgd of sewage. Using the estimated peaking factor of 2.0, the total flow will generate 2.337 mgd of sewage. In addition, the infiltration and inflow will generate an additional 0.25 million gallons of sewage per day. By requiring the proponent(s) of the proposed project to comply with the policies and implementation programs provided in the general plan and the specific plan, the impacts of future development on the plan area to the city's sewer wastewater collection, disposal, and treatment system is projected to be less-than-significant. However, installation of the sewer trunk line will be growth inducing which is discussed in the Growth Inducing discussion in Section 3 of this EIR.

Impacts and Mitigation Measures

Impact

Inadequate capacity exists at the sewer treatment plant to accommodate full build-out of the proposed project. *This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measures will reduce the potential impact to a less-than-significant level.*

Mitigation

26. As an implementation step of the Specific Plan and subsequent to annexation of the plan area, the proponent(s) of future development shall be required to prepare a public works master plan and a capital improvement program for the plan area prior to future entitlements, subject to the review and approval of the City Planning Director and City Engineer.
27. The capital improvement program for the Crossroads Community shall include payment of the proposed project's fair share of the following improvements to the city's sewage treatment and collections system: a major trunk line extension in accordance with the current sewer master plan and additional aerators to increase treatment plant capacity. This payment shall be made for each individual development project, subject to review and approval of the City Engineer, prior to approval of a final subdivision map, or any other land use entitlement.

2.10.2 Water Service

This section is based on the *Riverbank Village Specific Plan Infrastructure Study* prepared by Thompson-Hysell, Inc., in June 1991. This document is incorporated herein by reference and is available at the City of Riverbank City Hall. The following discussion summarizes this report.

Environmental Setting

The city is the water service provider for the project area. The city's water system consists of wells, storage, and a water distribution system.

The city's water system currently consists of five operational wells, minor storage at three of the well sites, and a water distribution system consisting of six- to 12-inch pipes.

Historically, water wells have been installed at a ratio of one well for each 500 housing units, which has been sufficient to provide domestic supply and fire flow. This is the recommended ratio of wells-to-housing units established by the city.

Project Analysis

Standard of Significance. According to the *CEQA Guidelines, Appendix G*, a project will normally have a significant effect on the environment if it will substantially degrade or deplete groundwater resources.

Water Demand

An estimate of the amount of water required to serve buildout of the plan area is illustrated in Table 22. The total water required to serve the build-out of the Crossroads Community is estimated to be 2,006 mgd, or 2,247 acre-feet annually.

Water Distribution System

The city has recommended a 12-inch water grid system for major lines in the project area, occurring at approximately half-mile spacing. The remaining distribution system pipe sizes will range from 6 to 12 inches.

Construction of these facilities should be phased as development is permitted. However, as more detailed infrastructure plans are developed, minimum line sizes, minimum fire flows, and peaking factors must be reviewed by the City Engineer to ensure that each phase of the development is adequately accommodated.

Water Supply and Fire Flow

Water supply to the plan area will be provided by new wells interconnected with the existing grid water distribution system. The city's public works department has recommended that one water well be planned for each 500 homes. Historically, this has been sufficient to provide domestic supply and fire flow. Therefore, four or five new wells are estimated to meet the additional demand. The City Engineer expects that five new wells will be required if no large storage facility is provided. The City Engineer has recommended that the developer coordinate with the city to contribute an appropriate share of the cost toward the development of a water system computer model as part of the city's area-wide infrastructure plan.

Summary

Build-out of the proposed project will require the expansion of the city's water system to meet the city's domestic and fire flow requirements. Water for the proposed project will be provided through the installation of four to five water wells and/or additional storage and a 12-inch grid distribution system. Past water use within the city indicates that four wells will provide an adequate amount of domestic supply and fire flow. However, the City Engineer has recommended that five may be necessary, or the addition of city storage capabilities. Further, the City Engineer recommends that a water system computer model be developed for the southwest area of the city to determine the most economical water system design. Water conservation measures should be adopted by the city to help fend off possible overdraft situations and alternative, non-potable water sources should be used to irrigate common open space areas. Water meters should be installed on all new connections to monitor water use.

TABLE 22
**City of Riverbank Crossroads Community
 Water Demand Estimates**

Land Use	Acres	Water Generation Factor (gdac)*	Flow (MGD)
Rural to Low Density Residential	8.5	3000	0.0026
Low to Medium Density Residential	296.0	4500	1.332
Low/Medium/High Density Residential	19.5	5000	0.098
Medium to High Density Residential	10.0	5000	0.050
Senior Housing	4.0	3000	0.012
Village Commercial	2.0	3000	0.006
Highway Commercial	20.0	3000	0.060
Regional Commercial/Business Park	67.0	3000	0.201
Elementary School/Neighborhood Park	21.0	3000	0.063
Community Serving Park	9.0	3000	0.027
Bicycle/Pedestrian Trail	25.0	3000	0.075
Village Public/Quasi-Public	2.0	3000	0.006
Modesto Irrigation District	17.0	3000	0.051
Roads	139.0	0	0.000
Canals	47.0	0	0.000
Total	687.0		2.006

* gallons per day per acre

Source: O'Dell Engineering

To ensure that adequate capacity is available to accommodate build-out of the plan area, the specific plan includes several programs that require the proponents of future development on the plan area to dedicate easements to the city to provide water infrastructure facilities as indicated in the infrastructure study and plan for services. The city will be responsible for determining the appropriate water infrastructure required to accommodate each phase of development on the plan area, and the city and the proponents of the proposed project will be required to develop an infrastructure phasing program to prioritize which water facilities must be in place prior to specific development levels. The proposed project requires that all new construction incorporate water conservation measures, such as low-flow shower heads, toilets, and faucets, and states that the use of drought-resistant plants and xeriscape landscaping principals should be used where appropriate.

The proposed project will generate a water demand of approximately 2.006 mgd. The combination of the aforementioned city-wide water system improvements and payment of city water fees is adequate to mitigate impacts to the city's water system. By requiring the proponent(s) of the proposed project to comply with the policies and implementation programs provided in the general plan and the specific plan, the impacts of future development on the plan area to the city's water system would be insignificant after implementation of mitigations.

Impacts and Mitigation Measures

Impact

Inadequate water line infrastructure exists at this time to accommodate full build-out of the proposed project. *This is considered to be a potentially significant environmental impact. However, implementation of the following mitigation measures will reduce the potential impact to a less-than-significant level.*

Mitigation

28. Refer to Mitigation 26.
29. The Crossroads Community developers shall coordinate with the city to provide its fair share fees for the city's water system. Fees are subject to review and approval of the City Engineer and shall be paid prior to approval of a final subdivision map.

2.10.3 Fire Service

Environmental Setting

The Stanislaus County Consolidated Fire Protection District (SCCFPD) provides fire service to the plan area and to the city. The SCCFPD is funded by county taxes levied against individual property owners for operational costs. Development fees are charged by the SCCFPD to provide additional capital facilities.

Project Analysis

Standard of Significance. *The CEQA Guidelines do not provide a standard of significance relating to fire protection, nor are fire service issues considered environmental impacts.*

The Crossroads Community Specific Plan includes a land use designation for a future fire substation within the highway commercial designation at the intersection of Claribel Road and Roselle Avenue. A new substation in this area would not be needed until 200,000 square feet of commercial/industrial buildings and 500 residential units are constructed (or some other similar combination or level of development to be determined by the SCCFPD). The applicant will be required to

pay fire safety fees applicable at the time of application submittal which would pay for capital costs.

There are no significant impacts relating to the proposed project. Mitigation is not required.

2.10.4 Police Service

Environmental Setting

The Stanislaus County Sheriff's Department provides police service to the City of Riverbank under a recently executed five year contract. The city recently built a new police station at 6727 Third Street in Riverbank. The County Sheriff, under contract to the city, staff this station.

Project Analysis

Standard of Significance. *The CEQA Guidelines do not provide a standard of significance relating to police protection, nor are police service issues considered environmental impacts.*

The addition of 2,000 homes will substantially impact the city Sheriff's Department and its services. Dollars from property taxes will not adequately pay for additional personnel or cost of facilities and services. Funds from Proposition 172, which has been approved by the voters, can only be used for law enforcement, crime prevention facilities, and associated services. In order to mitigate initial impacts from commercial development, a systems development fee is charged by the city at building permit issuance. In order to mitigate the residential impact on the Sheriff's Department, a systems development fee is charged by the city at building permit issuance.

Furthermore, the city collects a "lag fee" on new residential development. This lag fee applies to areas that are annexed into the city limits, but are not yet developed and occupied. The fee covers new expenditures for services that predate occupancy, with no source of new revenue. This includes delay after occupancy before new revenue sources are assessed, collected, and transferred to the city. The fee includes money for law enforcement and crime prevention services. The city services must be provided for 310 days before revenues are received. The amount of delayed revenue is dependent on the value and location of the development.

Because the fee structure described above is in place for new development, there are no significant impacts relating to the proposed project. Mitigation is not warranted.

2.10.5 Parks and Open Space

Environmental Setting

The Riverbank General Plan has a standard for provision of parks of five acres per 1,000 population, split between community and neighborhood parks. Because the build-out population of the Crossroads Community is projected to be 6,691 residents, approximately 33 acres of park are required.

Three parks are proposed by the Crossroads Community Specific Plan; one nine-acre community park, two neighborhood parks of eight acres and three acres in size and approximately 17 acres of linear park and recreation trails. All of the parks are designed to be linked and accessible to the neighborhoods and the other major activity areas within the community.

Project Analysis

The following park facilities are proposed as part of the project.

Community Park

Based on the findings of the parks needs analysis, it was determined that the community park contain, at a minimum, the following facilities:

- Two tot lots
- One soccer/football field
- Two baseball/softball fields
- One basketball court
- Two tennis courts
- Picnic area
- One multi-use activity area containing shuffleboard, bocci ball, or horseshoes
- 50 parking spaces
- One restroom and maintenance facility

Neighborhood Parks

Two neighborhood parks are planned for the Crossroads Community. One park (a 3-acre park) will be designed in conjunction with the elementary school for enhanced city and school recreational programs and overall efficient management and use of recreational facilities. The second neighborhood park (8 acres) is proposed adjacent to the Hetch-Hetchy right-of-way in the southern part of the plan area, which is part of the overall linear park system.

Based on the findings of the parks needs analysis, and the projected needs of the Crossroads Community population, it was determined that the following facilities will be required for the neighborhood parks:

Three-Acre School/Park

- One multi-use field (football/soccer/softball/baseball)
- One basketball court
- Two tennis courts
- One tot lot
- One passive picnic area (individual)
- One restroom/maintenance facility

Eight-Acre Park

- One multi-use field (football/soccer/softball/baseball)
- One stand-alone softball field
- Two basketball courts
- Four tennis courts
- One tot lot
- One passive picnic area (group)
- 25 parking spaces

Linear Parkways

Approximately 17 acres are planned for linear parkways. The vision for the linear parkways is that they will provide an interconnected network of trails to serve both as recreational and transportation alternatives. The linear parks are located adjacent to the irrigation canals and the Hetch-Hetchy right-of-way. The system will provide a pedestrian/bicycle path and landscaping and will interface with city- and region-wide bicycle trails.

For more information on parks planned for the Crossroads Community, refer to the Crossroads Community Specific Plan. *There are no identified significant environmental impacts associated with parks and recreational facilities.*

2.11 Schools

Environmental Setting

The Sylvan Union School District (SUSD), Riverbank Elementary School District (RESD), Oakdale Joint Union High School District (OJUSD) and Modesto High School District (MHSD) provide school services to the plan area. The SUSD and RESD will provide service to students generated from the plan area attending kindergarten through eighth (K-8) grade (includes elementary school and middle school). The MHSD and OJUSD serve students attending grades nine through twelve (9-12). Based on discussions with representatives of each of the school districts, all or most of the schools within each district are at capacity, and the student population continues to climb, thus necessitating such measures as installation of relocatable classrooms and establishment of extended day scheduling and year-round schedules for students at various schools.

It is important to point out that under current conditions, the cumulative impact of existing development in the region, other than the proposed project, has resulted in overcrowding in all school districts. This requires an ongoing program of flexible class scheduling and installation of relocatable classrooms. The proposed project, as it is built-out, will add to the existing capacity problem and simultaneously provide some measure of relief through the delineation of a ten acre elementary school site within the plan area.

Sylvan Union School District

The plan area is served by the SUSD (K-8), with the exception of a small area east of Roselle Avenue which is served by the RESD. The SUSD is currently overcrowded based on the need for relocatable classrooms and year-round schooling (Stan Dobbs, pers. com., August 15, 1995).

The specific plan includes the designation of a 10-acre site for the eventual design and construction of a new elementary school. The school will be located on a local street in order to avoid conflicts between cars and children, and to minimize the need for students to be transported to school by allowing students to walk or ride bicycles. Since the school is in proximity to housing, pedestrian and bicycle facilities will be provided on the local street network.

The school site is located near the MID main canal. Facilities separating the school from the canal include a bicycle path, a small neighborhood park and a local street. Refer to Figure 5 for the location of the proposed school site.

Designation of the 10-acre elementary school site within the plan area allows the full evaluation of the physical impacts associated with the construction of the school to be evaluated in this EIR. The analysis of the physical impacts associated with the construction of this school are contained in the other sections of this EIR. The purchase of the site by the SUSD and the payment of school impact fees are not impacts under CEQA and are not analyzed in this EIR.

Riverbank Elementary School District

The RESD is expected to provide service to a small portion of the site east of Roselle Avenue. The RESD is currently at capacity and accommodates student populations at its various school sites through a combination of new relocatable classrooms, extended-day and year-round schedules and new facilities construction (Rick John, pers. com., July 26, 1995). The school-age children residing in the area east of Roselle Avenue could be schooled at the new elementary school site, once constructed, if the RESD and the SUSD were to change their boundaries. This EIR makes no recommendation as to the feasibility of this boundary shift, but only offers this statement as a possibility which the districts may consider.

Modesto High School District

The portion of the plan area west of Roselle Avenue is served by the MHSD. A small area east of Roselle Avenue is served by the OUSD. There are two high

schools within the MHSD that will serve the site, Beyer and Johansen High Schools (Debbie Bailey, pers. com., July 26, 1995). The current capacity at Beyer is 1968 based on eighteen portable classrooms being used. The projected 1995-96 school year student population is 2,354. The MHSD proposes to accommodate the extra students through year-round, extended-day schedules and dispersal of high school students throughout its district (ibid.). The MHSD has created a "Joint Powers Authority" to form a Mello-Roos District, although this project's participation will be the subject of negotiations between the school district and the developers.

Oakdale Joint Union High School District

The portion of the plan area located east of Roselle Avenue is served by the OJUSD. This area is served by Riverbank High School. Riverbank High School has a current capacity of 800 students based on a permanent facility and 7 portable classrooms. The projected 1995-96 school year student population is 800 (Frank Remkiewicz, pers. com., July 26, 1995). The OUHSD has a forty-acre parcel set aside for a future high school to accommodate future development.

Project Analysis

Standard of Significance. *CEQA does not recognize capacity issues associated with schools to be a physical impact to the environment unless the capacity increase will necessarily lead to a physical impact.*

Based on the total number of residential units and the number of school aged children per unit, the proposed project, at buildout, is projected to generate 645 elementary school children, 318 middle school children and 376 high school children. The Specific Plan contains an implementation measure providing for dedication of 10 acres in the plan area for construction of a new elementary school, subject to school fee offsets. Any potential environmental impacts associated with the new elementary school have been evaluated implicitly in the biotic report, traffic report, and air quality reports.

Middle and high school students will be schooled outside the proposed plan area at existing facilities. The SUSD and the RESD will provide middle school facilities and the OJUHSD and the MHSD will provide high school facilities.

Based on discussions with the aforementioned school districts, all the districts have reached capacity and are currently accommodating new students by installing relocatable classrooms, provided extended-day and year-round schooling and constructing new schools when funding is available. The proposed project will compound the existing capacity problem.

Development in the plan area will be required to pay the statutory school fee based on residential and commercial construction. Payment of this fee will provide funds to partially offset student increases generated by development of the Crossroads community. However, the fees will not completely offset this increase and development within the plan area will exacerbate the existing capacity problem. The affected school districts have a range of options available to address this situation,

including year-round schools, longer classroom hours, and new classrooms. Increased enrollment will not necessarily result in a change in physical conditions. Therefore, the increase in capacity is not considered to be an environmental impact.

2.12 Population and Housing

Environmental Setting

In 1980, the U.S. Census showed the city's population to be 5,695. In 1990, the Census indicated the population to be 8,547. This difference represents a 50 percent increase in population in ten years. Based on the most current Housing Element of the General Plan (1992), the city will grow to approximately 18,200 by the year 2010.

The city's population is currently 13,350. With the addition of the currently approved residential units (461) and a per unit population factor of 3.5, there is anticipated to be an additional 1,614 new residents within the next two years (assumes current holders of approved projects will act within two years). When totaled, there will be approximately 14,964 residents in the city by the end of 1998 (3,236 less than the Housing Element forecast for 2010). Therefore, it is safe to assume the 1992 Housing Element forecast, based on recent population growth, is less than what should be projected to the year 2010. A revised forecast for the year 2010 should reflect the annual percentage population increase between 1980 and 1990, which was approximately 3.7 percent.

The Stanislaus County area is largely affected by Bay Area commuters. Though Riverbank has not experienced growth from this group historically, the city's unrestricted growth policy, which allows the market to dictate the housing construction and population growth, and current restrictions on growth in some Stanislaus County communities (due largely to the lack of sewer capacity), are projected to attract additional development.

In 1990, the city had a housing stock of 2,647 units. Seventy-four percent of the homes were single-family. This continues a consistent trend observed over the last decade. Comparison of trends from 1980 to 1990 indicate a significant increase (222%) in the use of mobile homes/trailers for the preferred housing types. Single-family attached, 2 units, 3 to 4 units, and 5 or more units also have increased by seventy-nine percent in this same time period (ibid.).

There is a decreasing vacancy rate in lower income single and multiple housing stock. Based on the State Finance Department figure for 1991, the overall vacancy rate for dwellings in the city has varied from 7.75% in 1980 to 3.96% in 1990. The decreasing vacancy rate for available housing limits choice for both new and existing housing in various price ranges. A survey conducted by the city in 1990 indicated that of the existing 2,323 units at the time, 1,362 units were identified as sub-standard. Of this sub-standard number, 1,349 units were constructed before 1969 (ibid.).

Riverbank has experienced plant closures and startups that cause part-time and full-time employment opportunities to fluctuate, though the city is gradually expanding its employment opportunities as the population expands. County-wide, agriculture is the mainstay of the economy. Agriculture is the fifth largest employer in the county, and during the peak season as many as 20,000 short-term jobs are created, which then makes agriculture the second largest employer in the county. Over time, however, agricultural jobs will be lost as land is converted to urban uses.

Project Analysis

Standard of Significance. According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will induce substantial growth or concentration of population.

Based on the number of residential units proposed (2,036 units), it is expected that the total population of the Crossroads Community will be approximately 6,691 (based on 3.5 persons per unit for single-family and 2.0 persons per unit for multi-family and senior housing). This increase reflects an interest on the part of the city to provide additional housing for the existing population and to allow the market to determine where future population should be located. *The population increase is not considered a significant environmental impact because it is part of the planned development of the city. There is no significant environmental impact and there is no mitigation warranted.*

2.13 Archaeological Resources

Environmental Setting

The plan area lies within the San Joaquin Valley, which was inhabited for centuries, first by Native Americans, the Yokuts people, and later by Euro-American immigrants. Therefore, the potential exists for cultural resources to be present within the plan area.

A records search of the files at the Central California Information Center (CCIC), located at California State University, Stanislaus, indicated that no cultural resources are recorded within one mile of the plan area, and none are recorded within the plan area itself.

In addition to the records search of the CCIC, the following sources were reviewed: the California Inventory of Historic Resources (1976), the California Historical Landmarks (1990), the California Points of Historical Interest listing (May 1992 and updates), the California Department of Transportation Local Bridge Survey (1989); the Survey of Surveys (1989), and other pertinent historic data available at the CCIC.

Project Analysis

Standard of Significance. According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.

Impact

There are no known impacts relating to the proposed project. However, there could be cultural resources impacted by construction. This is considered to be a potentially significant impact. Implementation of the following mitigation measure will reduce the potential impact to a less-than-significant level.

Mitigation

30. As required by the CEQA Guidelines, Appendix K, if cultural resources are discovered during project-related activities, all work shall cease in the vicinity of the find and the lead agency and a qualified archaeologist are to be contacted regarding evaluation of the discovery. If Native American remains are found, the County Coroner and the Native American Heritage Commission in Sacramento are to be notified for recommended procedures. This mitigation shall be included as a contractor work specification on all copies of plans.

2.14 Energy

Environmental Setting

Over the last 50 years, Californians have used a greater amount of energy than ever produced or used previously. Energy resources are used to such an extent that it degrades the environment where the energy is used and produced. There are also health hazards associated with energy use. Therefore, it is imperative that California communities employ techniques which efficiently conserve natural resources and energy.

State standards are in place to regulate energy-efficient construction and utility programs and provide suggestions for on-going energy efficiency. Innovations and advancements in energy technology provide further opportunities for saving energy and resources related to energy costs.

State Standards

All new buildings built in the State of California must meet Building Energy Efficiency Standards in accordance with the California Administrative Code, Title 20. Construction must also meet the compliance requirement of Title 24 when building permits are filed. Therefore, all development within the Crossroads Community must comply with state energy efficiency standards.

Utility Programs

Pacific Gas and Electric Company (PG&E) and the MID will provide gas and electric utility service to the Crossroads Community, respectively. PG&E and MID have made commitments to energy efficiency and provides customers with a wide range of energy efficiency programs, which should be applied in the Crossroads Community.

Currently, customers can obtain rebates through the Electric and Gas Industries Association (EGIA) for the purchase of more energy efficient appliances and insulation for their homes. Additionally, coupons are available to use toward the purchase of energy-saving items including shade trees, water heater blankets, low-flow showerheads, and air conditioner/heater filters. Home energy fact sheets that provide information ranging from weatherizing homes to tuning up central heating systems are available to all PG&E customers.

Project Analysis

Standard of Significance. *According to the CEQA Guidelines, Appendix G, a project will normally have a significant effect on the environment if it will use energy in a wasteful manner.*

Design techniques should be used within individual residential units to encourage energy efficiency. The most cost effective design technique to conserve energy resources is the use of "passive solar design." This includes building design that keeps structures cool in the summer and warm in the winter. By placing the alignment of structures to minimize sun exposure of the interior of structures in the summer and optimizing sun exposure in the winter, passive cooling and heating can be attained. To further enhance the cooling and warming of structures, planting deciduous trees around structures is recommended.

Design innovations within individual residential units, such as compact composters and recycling stations, as well as kitchen trash compactors, should be encouraged to assist in the reduction and recycling of solid waste. The design element of the Crossroads Community Specific Plan includes detailed design guidelines for future development which include these measures.

It is not projected that the proposed project will result in a significant impact to energy resources.

3.0 Environmental Evaluation

3.1 Unavoidable Significant Adverse Environmental Impacts

An unavoidable significant adverse impact is a significant adverse environmental impact that cannot be reduced to an insignificant level through mitigation. The CEQA guidelines require a lead agency to make findings of overriding consideration for unavoidable significant adverse environmental impacts before approving a proposed project.

The evaluation of the proposed project in Section 2 of this EIR identifies significant unavoidable adverse environmental impacts associated with the loss of approximately 190 acres of prime agricultural land and 443 acres of lesser agricultural land (farmlands of Statewide Importance), and air emissions of reactive organic gases (ROG) and oxides of nitrogen (NOx) that exceed the APCD's threshold of significance. Adoption of a statement of overriding consideration by the city will be required for the impacts relating to agricultural land conversion and air quality impacts.

There are also unavoidable cumulative impacts associated with the Swainson's hawk, wetlands, traffic, and air quality. These are discussed below in the Cumulative Impacts section.

3.2 Growth-Inducing Impacts

Growth-inducing generally refers to the likelihood that a proposed project will foster growth in the surrounding area, either directly or indirectly. The most common factor in fostering growth is the removal of obstacles to population or economic growth. Potential growth-inducing impacts should be discussed in relation to both the potential impacts on existing community service facilities and the way a project may encourage and facilitate other activities that could significantly affect the environment.

The City of Riverbank is located two miles northeast of the City of Modesto and four miles west of the City of Oakdale. The 687-acre plan area is located to the south-west of the existing city boundary.

Northeast of the plan area, across the M.I.D. main irrigation canal, lies an existing mobile home park, the California Blossom Subdivision and the City of Riverbank. In the southeast, the plan area is bordered by ranchettes, which are single-family residences situated on large-acre parcels. These parcels are under Stanislaus County jurisdiction.

Across Oakdale Road, to the west of the plan area, lies open farmland which is designated as Residential Reserve within the city's General Plan. This land is

currently within the jurisdiction of Stanislaus County and supports row crops and orchards.

The City of Modesto Sphere of Influence borders the plan area to the south, across Claribel Road. This land is currently designated as an Urban Transition Zone and consists of agricultural uses.

Proposed project infrastructure improvements include development of a storm drainage system, water, a 30-inch sewer trunk line between the plan area and the city's wastewater treatment plant, and transportation circulation systems. All on-site improvements are to be developed or expanded to meet the needs of the proposed plan area only. In addition, developers of the plan area will be required to contribute pro-rata shares towards extension of a trunk sewer line to the plan area and expansion of the city wastewater treatment plant. The 30-inch sewer line is estimated to accommodate an additional 1,600 residential units (or equivalent) beyond what is planned within the Crossroads Community, and is considered to be growth inducing.

The general plan identifies the plan area as the *Crossroads Neighborhood*, which is one of seven neighborhoods designated Residential Reserve. A land use designation of Residential Reserve requires the preparation of a specific plan for any changes in land use from the original land use designation, and maintains that any changes to a more specific land use designation not be approved except on a neighborhood basis. In general, these new land use designations are required to be consistent with one of the several residential land use designations provided in the general plan. However, some commercial land use designations are allowed in these areas to serve the needs of future Crossroads residents as well as residents in the region.

In regards to the proposed commercial development on the site fronting Oakdale and Claribel Roads, it can be construed that this type of development will be growth-inducing for the region, especially because the projected highway commercial and regional commercial space combined is approximately 1,385,208 square feet. This total square footage will be growth-inducing but will also be developed in response to a growing local and regional population outside the context of the Crossroads Community (i.e. the "seven neighborhoods").

The proposed project is also considered to be growth-inducing because of the 30-inch sewer trunk line with greater capacity than is needed for the proposed project. It will remove a constraint to planned development in the area.

3.3 Cumulative Impacts

CEQA guidelines section 15130 requires a discussion of the significant cumulative impacts associated with the proposed project. CEQA guidelines section 15130(b) requires that "the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great a detail as is provided of the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness."

CEQA requires a cumulative development scenario to consist of either:

- a. A list of past, present and reasonable anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency, or
- b. A summary of projections contained in an adopted general plan or related planning document which is designed to evaluate regional or area-wide conditions. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

Cumulative Development Scenario

This cumulative scenario discussion is partially based on the assumption that the population of the city will be at least 21,424 (project population of 6,691, plus existing population of 13,350, plus population associated with 461 approved but not yet constructed residences), and the SAAG Countywide Traffic Model.

Cumulative Impacts

The following discussion identifies the major environmental impacts that may result from the development of the aforementioned cumulative projects.

Agricultural Resources

Farmland conversion and the loss of thousands of acres of prime farmlands throughout the region is considered to be a significant unavoidable cumulative adverse impact. This loss could be offset to some extent through greater urban densities. Higher density development requires less land area per residential unit and could slow down agricultural land conversion. Furthermore, other benefits of higher density include potentially fewer air pollution emissions from vehicles because mass transit would be more available. To attenuate the impact to the greatest extent possible, all jurisdictions need to implement the Stanislaus County Agricultural Element (1992).

Traffic and Circulation

The cumulative traffic generated by proposed projects in the City of Riverbank and the region are based on traffic projections obtained from the Countywide Traffic Model developed for SAAG. These projections are representative of the year 2015 traffic conditions. In the vicinity of the plan area, the 2015 roadway network developed for the SAAG regional traffic model assumes widening of all or portions of major roadways in the area to four lanes. This is consistent with the Riverbank General Plan and Stanislaus County's General Plan. Collector roadways such as Morrill Road and Crawford Road are still anticipated to consist of two travel lanes as they currently exist.

Background land use assumptions in the vicinity of the plan area were taken from the year 2015 SAAG Model Land Use Listing. Land use assumptions contained in the traffic model for the plan area consist largely of agricultural uses. For the cumulative base analysis (i.e. without development of the site as proposed), no development has been assumed for the site in order to specifically isolate impacts associated with development.

Reasonably foreseeable improvements to regional transportation facilities have been identified through the Stanislaus County Public Facilities Fee Program, the Stanislaus Area Association of Governments 1993 Regional Transportation Plan and the Stanislaus County Regional Expressway Study.

Cumulative Levels of Service - Without Project.

Roadways. The cumulative scenario analysis assumes that four lanes exist on area roads (except Morrill Road) by the year 2015. In this scenario, all roadways will operate at an acceptable LOS, except for the segment of Claribel Road and the short sections of Oakdale Road and Coffee Road in the vicinity of their intersections with Sylvan Road. Mitigation for this conditions would be to widen Claribel Road needs to be widened to 6. In lieu of widening lanes with "conventional" intersection geometrics, Claribel Road may be constructed as a 4 lane expressway with urban interchanges located at its major intersections.

Intersections. With the intersection geometrics assumed for the cumulative base condition to reflect current planning documents, many of the intersections operate unsatisfactorily. However, with intersection configurations that can reduce the LOS, the acceptable operations at all of the signalized intersections can be improved to an acceptable level.

Cumulative Levels of Service - With Project The land use network was modified to accurately depict the proposed roadway system in the vicinity of the plan area. The land use file was updated to include trips expected to be generated by the project. The 2015 model was then rerun to yield traffic volumes on area roadways and intersections under the Cumulative Plus Project condition.

All of the signalized intersection locations are projected to operate at an unsatisfactory level, except for Claus Road/Claribel Road intersection which deteriorates from LOS C/D in the morning to LOS E and from LOS B in the evening to LOS C. The Claus Road/Santa Fe Avenue intersection degrades from LOS C/D in the morning to LOS D and the Roselle Avenue/Patterson Road intersection degrades from LOS C to LOS D during the A.M. peak hour. However, no change in operating LOS is project during the P.M. peak hour at these locations.

The Claus Road/Route 108, Claus Road/Patterson Road, Oakdale Road/Morrill Road and the Coffee Road/Patterson Road intersection are still projected to operate acceptably at LOS C or better during both peak periods. However, there is an LOS change projected for Claus Road/Claribel Road, Claus Road/Santa Fe Road and Roselle Road/Patterson Road intersections.

Development of the proposed plan area will warrant signalization of the Roselle Avenue/Morrill Road and Roselle Avenue/Crawford Road unsignalized intersections during the P.M. peak hour, and will warrant signalization of the Oakdale Road/Crawford Road intersection during the A.M. peak hour.

Project access onto Morrill Road are projected to operate satisfactorily with build-out of the site. It was assumed that the single-family residences located to the north of Morrill Road would access the adjacent street system via the fourth leg of each of these intersections to the north. LOS A operations will result.

The project north access to Oakdale Road is expected to operate at LOS F and E during the A.M. and P.M. peak hours, respectively. While delays experienced by motorists are long, warrants for signalization at this location are not met under this condition.

The Oakdale Road/south project access and the project access for the highway commercial portion of the site onto Roselle Avenue intersections both operate at LOS F during one or both peak periods. Due to the large exiting volumes from the plan area, roadway approaches to these locations should provide sufficient width to accommodate separate left- and right-turn lanes out of the site and should be stop controlled. Signalization is warranted at both of these locations with build-out of the plan area.

As under the Existing Plus Project condition, the Patterson Road/Roselle Avenue, and the Morrill Road/Roselle Avenue intersection meet the criteria for left-turn channelization.

With build-out of the plan area, the newly created intersections of Crawford Road/Roselle Avenue, Oakdale Road/south project access and the Roselle Avenue/highway commercial access intersections also meet this criteria. However, all these intersections also meet peak hour warrants for signalization, and therefore left turn channelization would be implemented in conjunction with signalization.

The following four mitigations shall be paid for through proportionally-levied fees collected at the time building permits are obtained from the city. *These mitigations shall be implemented when traffic volumes warrant them.*

Mitigation

31. Patterson Road/Roselle Avenue. With the addition of project generated trips, an additional eastbound and westbound left-turn lane will be needed to provide a satisfactory LOS.
32. Claribel Road/Roselle Avenue. An additional northbound and southbound through lane will need to be carried through the intersection to provide a satisfactory LOS.
33. Sylvan Road/Oakdale Road. An additional eastbound and westbound through lane will need to be carried through the intersection to provide a satisfactory LOS.

34. Project Access Intersections. Traffic signals will eventually become necessary at the Crawford Road intersections and at the access locations to the regional commercial/business park and highway commercial uses. In addition, signalization will be needed at the Roselle Avenue/Morrill Avenue intersection. The Crossroads developers shall be responsible for installing these traffic signals in the future when warrants are met.

With the elimination of projects from the County Public Facility Fee (PFF) program, fee funding is not available for mitigation measures that will be needed for cumulative impacts, whether Crossroad is developed or not. The project should contribute its fair share to the cost of cumulative mitigation measures by doing the following: 1) paying applicable PFF fees, and 2) paying a proportionate share of the cost of unfunded cumulative mitigations. Regardless of the payment of fair share fees by the project, the cumulative impact of demands on the regional roadway network is considered to be significant and unavoidable, because funding for all off-site improvements cannot be assured.

The project's share of unfunded improvement costs has been assumed to be in proportion to the project's share of the net "new" traffic occurring on area roads in the future. Specific numbers are referenced in Appendix C of this EIR, commencing on page 41.

Air Quality

Continuing growth, as well as weather conditions in the San Joaquin Valley have caused the Valley to be in "nonattainment" for ozone and PM₁₀ emissions. Cumulative air quality impacts resulting from pending and/or proposed development projects will generate additional regional emissions indirectly through auto use and compound the existing nonattainment conditions. This growth, when combined with existing and/or planned growth, will have a short-term cumulative, significant, unavoidable impact on air quality. This condition is currently being addressed by the APCD (a "responsible agency") through implementation of the APCD's *PM₁₀ Nonattainment Area Plan*, the federal *1992 Air Quality Attainment Plan for Carbon Monoxide*, the *1991 Air Quality Attainment Plan*, and the November 1994 *Ozone Attainment Demonstration Plan*.

Based on the *Ozone Attainment Demonstration Plan*, the APCD will be in attainment with federal EPA standards by 1999. As stated in the *Ozone Attainment Demonstration Plan*, almost all of the San Joaquin Valley will reach attainment by implementation of rules which the APCD has already adopted from the 1991 Air Quality Attainment Plan and the federal *Rate of Progress Plan*. Small areas in Fresno and Kern counties are projected to remain in exceedance of the federal standard without additional reductions in both the local and transport situations. In addition, the APCD *1994 Serious Area PM₁₀ Plan* calls for conformance with the Federal Clean Air Act Amendments (FCAA) by December 31, 2001.

However, attainment with the California Clean Air Act is not determined per the APCD's 1991 *Air Quality Attainment Plan*, though there is the requirement that the APCD achieve a five percent per year reduction for each air pollutant or precursor

for which the APCD has been designated with nonattainment status, until attainment is achieved. Even if attainment were to be achieved, there is data that indicates air quality will worsen because of a growing population.

Noise

Additional urban development will increase the ambient noise levels. However, because construction incorporates noise attenuation features and land use is premised on not locating noise sensitive receptors too close to noise sources, this is not considered to be a significant cumulative issue.

Biological Resources

Continued urban development, especially in or near the areas where sensitive habitat occurs, will deplete biological diversity in the region and continue in the slow extirpation of "listed" plant and animal species (e.g. Swainson's hawk) through loss of nesting and foraging habitat. This is considered to be a significant environmental impact. Cumulative impacts as they pertain to listed species can only be mitigated through preservation of listed species habitat in perpetuity. Addressing the cumulative impacts to all threatened, endangered and species of special concern requires state-wide and region-wide solutions that are appropriately addressed by state agencies, such as the CDFG and local and regional agencies, such as councils of governments. Participation on the part of professional plant and wildlife biologists, environmentalists, the development community and local governments is paramount for any future endeavor to successfully preserve habitat and prevent extirpation of listed species.

Though not expected to be a significant impact with implementation of prescribed mitigations, wetlands throughout the region are threatened by urbanization and agricultural operations, which either remove or contaminate wetlands with chemicals or silt from erosion. This is a regional issue partially addressed by the NPDES program, greater controls on application of agricultural chemicals in sensitive watershed, wetlands acreage off-sets, and wetlands maintenance and improvements to reestablish the viability of some wetlands. The cumulative impacts are being addressed by federal and state agencies.

Groundwater

The water level declines that have occurred historically in the study area are largely considered temporary adjustments to changes in pumping locations and amounts (Black and Veatch 1995). Because of perennial sources of recharge on virtually all sides of the basin, a stability in water levels would eventually be expected to occur (i.e., if pumping was constant and pumping location did not change). Once adequate recharge is intercepted by expanding cones of depression, stabilization of the water level will result (ibid.). Intentional recharge could also increase the safe yield of the basin, but this recharge would need to be practiced where the recharged water would not be lost to streamflow, or where shallow groundwater problems would not be created or exacerbated.

Groundwater is a critical component of the water supply within the MID. According to the recent studies completed for the MID, groundwater is projected to be relied on more heavily as supplemental and by some users as a sole source of water supply for both agriculture and urban needs. As this groundwater production increases in the future, overall groundwater recharge is projected to decrease as a result of urban land use displacing agricultural lands. Based on this forecast, the MID has developed a goal which is "to optimize the use of groundwater for agricultural and potable requirements in such a way as to minimize the cost of the overall water supply and to improve the reliability of the water supply for all water users in the MID service area". Elements of the Groundwater Management Plan in support of the goal include continuation of existing and development of new management policies, potential groundwater yield enhancement programs, and the conjunctive use of surface and groundwater (MID 1996).

Groundwater management includes monitoring of groundwater production, storage and quality, administration and monitoring of well construction, and groundwater quality protection. Yield enhancement includes artificial recharge and recovery of contaminated groundwater. The conjunctive use of surface and groundwater is also important. This element is the combined use of surface and groundwater resources in such a way that the combined yield is greater than the yield that would occur from the sum of independent, uncoordinated operations of surface or groundwater resources. Conjunctive water use is commonly associated with storing water in groundwater basins for use during periods of drought or shortage (ibid.).

Implementing the GMP goal stated above requires a set of criteria from which to test the various elements of the GMP. The GMP must:

- Meet supplemental and future water demands;
- Protect or improve the existing groundwater quality;
- Have a minimum cost; and
- Be easy to implement

The groundwater management plan will be an integral part of satisfying the water demands in the MID service area. Since surface water availability is subject to hydrologic variations from year to year, with shortages occurring during dry years, groundwater can be managed to minimize both the peak seasonal demand for surface water supplies and the need for surface water during dry years. Optimizing the MID conjunctive water use capabilities as a key element of groundwater management reveals a need for coordination with facility improvements being addressed in the MID's Irrigation Master Plan. If properly managed, the MGB should provide a reliable supplemental water supply of a suitable quality for all groundwater users (ibid.).

3.4 Project Alternatives

Pursuant to section 15126(d) of CEQA Guidelines, an EIR must analyze reasonable alternatives that avoid significant environmental damage. Besides the No-Project

alternative that is required to be discussed, the EIR also discusses an Alternative Location. These alternatives and their associated impacts are discussed below.

No-Project Alternative

Under the No-Project alternative, there would be no development of the property. Current land uses (orchard, pasture and scattered housing on large-acre lots) would remain. If this alternative were adopted, potential impacts in the areas of agricultural land conversion, traffic and circulation, water supply, wastewater treatment, air quality, biological resources, noise, etc. would be eliminated.

Infill Development Alternative

This alternative incorporates infill development throughout the city's existing city limits, whereby impacts to prime agricultural land are postponed by developing residential and commercially zoned properties within the city prior to relying on property in the city's periphery. However, because there are few infill opportunities for development under existing general plan land use and zoning designations, growth within the city will eventually impact surrounding prime agricultural land.

Based on a review of existing vacant lots within the city that are currently designated for residential use, an additional 490 residential units could be constructed (Palazzo 1996). Within the current city boundary there are 461 lots that have been approved for residential units. These are not counted in the 490 potential future units. Within the existing Sphere of Influence there are an additional 2,077 units (ibid.).

Through infill development within the current city limits, the city could, in the short-term, postpone the conversion of agricultural land. Infill development could address some of the city's future residential and commercial needs, but would not provide as many residential units or the commercial/industrial opportunities proposed in the Crossroads Community project, nor would this infill development approach eliminate conversion of prime agricultural land.

In this alternative, it is important to note that the time frame of conversion of prime agricultural land following full build-out of the city is dependent on the pace of infill. This alternative cannot be considered the environmentally superior alternative because infill, though it can postpone some conversion of prime agricultural land, will not eliminate conversion of prime agricultural land.

In regards to the significant adverse air quality impacts identified in this EIR, infill development may increase the emissions of ROG, NOx and PM10 relative to the emissions associated with the proposed project. Emissions are predicated on the distance between employment, commercial/service land uses, and the relative location of residences to such employment and commercial/service land uses. Therefore, because infill in the city would represent scattered development and may result in greater driving distances to commercial and service needs of residents relative to the proposed project, which provides a central commercial district (most residences are within one-quarter mile of the proposed central commercial district) in order to, among other reasons, reduce vehicle miles traveled by future residents and

reduce vehicle emissions, this alternative is expected to have slightly greater emissions.

Alternative Site

This alternative considers an approximately 320 acre area within the sphere of influence of the city, which is bounded by Kentucky and Eleanor Avenues, Claus Road, State Route 108, and Mesa Drive. The area is illustrated in Figure 13. This area is currently designated low density residential and currently supports scattered livestock grazing. The county has designated the area in the sphere of influence as urban transition. As in the infill alternative discussed above, the proposed project's basic objective of providing a central place of focus for the community could not be feasibly attained using this area of the city. In addition, as in the case of the proposed project, development of this site would result in an unavoidable significant adverse impact regarding conversion of prime agricultural land, although the amount of agricultural land lost associated with this alternative site would be less.

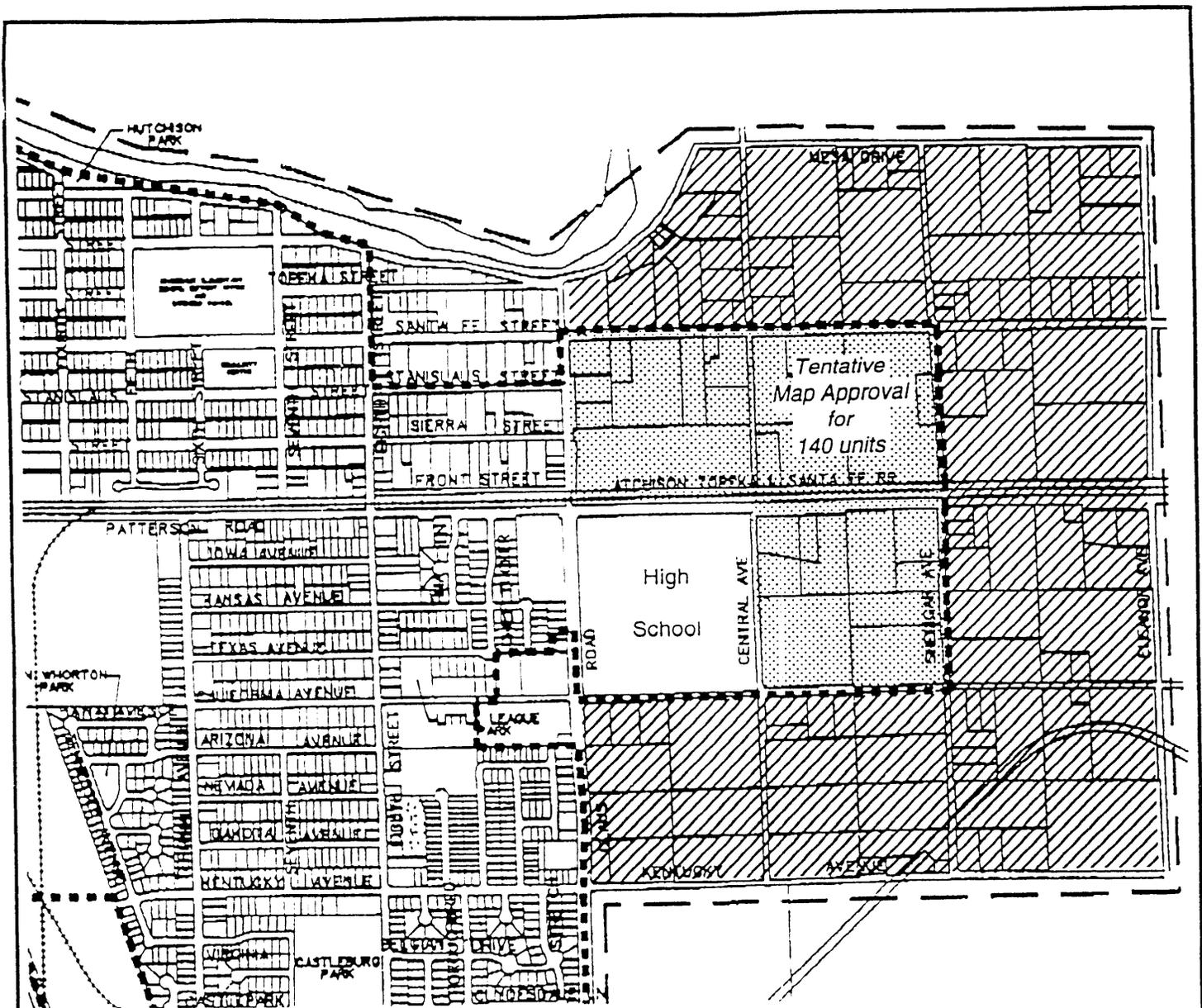
The proposed project's basic objectives as defined in the EIR could not be feasibly attained using this area of the city. For example, the central business district concept located within one-quarter mile of most residents associated with the proposed project could not be sustained in this alternative scenario, because of the shape of this alternative site.

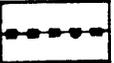
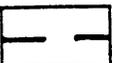
As for the impact relative to agricultural land conversion associated with the proposed project, which was determined to be a significant impact in this EIR, this alternative would also have an unavoidable significant adverse impact regarding agricultural land conversion.

This alternative is not considered to be environmentally superior because it would not reduce significant adverse impacts as they relate to agricultural land conversion and air quality. Growth inducing impacts could also occur if new oversized sewer trunk lines were required.

Down-Sized Alternative

This alternative reflects the proposed project's potential impacts to the air basin, which are determined to be significant and unavoidable. Based on Table 18 of the EIR, the proposed project would exceed the Reactive Organic Gases (ROG) threshold of significance (55 lbs./day) by a factor of nine. By using the Urbemis 5 air quality model (the worst case scenario was inputted whereby temperatures are 40 degrees and represent winter conditions), it can be determined what the potential number of units could be developed on the site without exceeding the threshold of 55 lbs./day. Based on the Urbemis run, approximately 400 single-family dwelling units and 120 high-density multi-family units could be constructed without exceeding the threshold. Or, approximately 200 single-family units, 75 high-density residential units and 75,000 square feet of commercial space could be developed without exceeding the threshold. There are a number of combinations that exist that would result in ROG emissions being less than the threshold. In this scenario development would be concentrated closest to the city such as the north half of the plan area.



-  City Limits
-  Sphere of Influence
-  Urban Transition Area Alternate Site
-  R-1/Low Density Residential



Source: City of Riverbank



City of Riverbank
 Crossroads Community Specific Plan EIR
Alternative Site

Figure
13

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However, this alternative does not accommodate planned growth of the city in a comprehensive manner and could instead piece-meal development, whereby the equivalent of the remaining residential units and square footage of commercial space associated with the proposed project could theoretically be developed in an incremental fashion elsewhere in the city or region. In the incremental development scenario, the impacts relative to the air basin are expected to be higher because it is not expected that land use planning design concepts that reduce emissions would be implemented on smaller scale incremental projects.

This down-sized alternative would eliminate the beneficial elements of the Crossroad Community Design Concepts, which are premised on a neo-traditional planning techniques discussed previously in the Air Quality section. As in the Infill Alternative discussed above, the proposed project's basic objectives as defined in the EIR could not be feasibly attained. This alternative is not considered to be environmentally superior.

Environmentally Superior Alternative

CEQA (Section 15126.d.2.) states that an environmentally superior alternative must be selected. Based on the evidence submitted in this EIR, the environmentally superior alternative is the No Project alternative because it would eliminate the potentially significant impacts associated with agricultural land conversion and with emissions associated with vehicle trips. However, Section 15126.d.2 also states that if the environmentally superior alternative selected is the No Project alternative, then another environmentally superior alternative must be selected among the alternatives.

Based on the analysis in this EIR, an alternative location within the city or within its sphere may not provide any measure of improvement relative to the significant adverse environmental impacts associated with the loss of agricultural land and air quality impacts. Therefore, the proposed project, as mitigated in this EIR, is selected as the other environmentally superior alternative, because it addresses the air quality issue to the best extent possible through the provision in the *Crossroads Community Specific Plan* for a neighborhood/community commercial zone that is centrally located and within one-quarter mile of most residents and on-site employment opportunities, which can reduce vehicle trips. The loss of agricultural land remains a significant issue relative to the proposed project as well as any alternative project. The city will be required to make a "statement of overriding consideration" with associated findings and evidence if the city determines to approve the proposed project.

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4.0 Report Preparers and Literature Cited

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Appendix A

1993 Initial Study

INITIAL STUDY OF ENVIRONMENTAL IMPACTS

The following questions are intended to be used to identify if the proposed project may have any significant environmental impacts. The Initial Study was prepared pursuant to CEQA Guidelines Section 15063 (August, 1986).

CEQA ENVIRONMENTAL CHECKLIST FORM
(To be completed by Lead Agency)

- I. Background
 1. Name of Proponent: City of Riverbank
 2. Address and Phone Number of Proponent: 6707 Third Street, Riverbank, CA 95367
(209) 869-3671
 3. Date of Checklist Submitted: April 21, 1993
 4. Agency Requiring Checklist: City of Riverbank
 5. Name of Proposal, if applicable: Riverbank Village Specific Plan.

II. Environmental Impacts

(Explanations of all 'yes' and 'maybe' answers are required on attached sheets.)

- | | Yes | Maybe | No |
|--|-----|-------|----|
| 1. Earth Will the proposal result in: | | | |
| a. Unstable earth conditions or in changes in geologic substructures? | - | - | ✓ |
| b. Disruptions, displacements, compaction, or overcovering of the soil? | - | ✓ | - |
| c. Change in topography or ground surface relief features? | - | - | ✓ |
| d. The destruction, covering, or modification of any unique geologic or physical features? | - | - | ✓ |
| e. Any increase in wind or water erosion of soils, either on or off the site? | - | ✓ | - |

- | | Yes | Maybe | No |
|--|-----|-------|----|
| 1. Earth (Cont'd.) | | | |
| f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet, or lake? | - | - | ✓ |
| g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards? | - | - | ✓ |
| 2. Air Will the proposal result in: | | | |
| a. Substantial air emissions or deterioration of ambient air quality? | - | ✓ | - |
| b. The creation of objectionable odors? | - | - | ✓ |
| c. Alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally? | - | - | ✓ |
| 3. Water Will the proposal result in: | | | |
| a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters? | - | - | ✓ |
| b. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff? | ✓ | - | - |
| c. Alterations to the course or flow of floodwaters? | - | - | ✓ |
| d. Change in the amount of surface water in a water body? | - | - | ✓ |
| e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to, temperature, dissolved oxygen, or turbidity? | - | - | ✓ |
| f. Alteration of the direction or flow rate of groundwater? | - | - | ✓ |
| g. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? | - | - | ✓ |

	Yes	Maybe	No	Yes	Maybe	No
3. Water (Cont'd.)						
h. Substantial reduction in the amount of water otherwise available for public water supplies?		✓	—	—	—	✓
i. Exposure of people or property to water-related hazards such as flooding or tidal waves?	—	—	✓	—	—	✓
4. Plant Life Will the proposal result in:						
a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?	—	—	✓	—	—	✓
b. Reduction in the numbers of any unique, rare, or endangered species of plants?	—	—	✓	—	—	✓
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?	—	—	✓	—	—	✓
d. Reduction in acreage of any agricultural crop?	—	✓	—	—	—	✓
5. Animal Life Will the proposal result in:						
a. Change in the diversity of species, or number of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, or insects)?	—	✓	—	—	—	✓
b. Reduction in the numbers of any unique, rare, or endangered species of animals?	—	—	✓	—	—	✓
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	—	—	✓	—	—	✓
d. Deterioration to existing fish or wildlife habitat?	—	—	✓	—	—	✓
6. Noise Will the proposal result in:						
a. Increases in existing noise levels?	—	✓	—	—	—	✓
b. Exposure of people to severe noise levels?	—	—	✓	—	—	✓
7. Light and Glare Will the proposal produce new light and glare?	—	—	✓	—	—	✓
8. Land Use Will the proposal result in substantial alteration of the present or planned land use of an area?	—	—	✓	—	—	✓
9. Natural Resources Will the proposal result in:						
a. Increases in the rate of use of any natural resources?	—	—	✓	—	—	✓
b. Substantial depletion of a nonrenewable natural resource?	—	—	✓	—	—	✓
10. Risk of Upset Will the proposal involve:						
a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?	—	—	✓	—	—	✓
b. Possible interference with an emergency response plan or an emergency evacuation plan?	—	—	✓	—	—	✓
11. Population Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?	—	—	✓	—	—	✓
12. Housing Will the proposal affect existing housing, or create a demand for additional housing?	—	—	✓	—	—	✓
13. Transportation/Circulation Will the proposal result in:						
a. Generation of substantial additional vehicular movement?	—	—	✓	—	—	✓
b. Effects on existing parking facilities, or demand for new parking?	—	—	✓	—	—	✓
c. Substantial impact upon existing transportation systems?	—	—	✓	—	—	✓
d. Alterations to present patterns of circulation or movement of people and/or goods?	—	—	✓	—	—	✓
e. Alterations to waterborne, rail, or air traffic?	—	—	✓	—	—	✓

	Yes	Maybe	No
13. Transportation/Circulation (Cont'd.)			
f. Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?	-	✓	-
g. Will project effect airport given FAA restrictions?	-	-	✓
14. Public Services Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
a. Fire protection?	-	✓	-
b. Police protection?	-	✓	-
c. Schools?	-	✓	-
d. Parks or other recreational facilities?	-	✓	-
e. Maintenance of public facilities, including roads?	-	-	✓
f. Other governmental services?	-	✓	-
15. Energy Will the proposal result in:			
a. Use of substantial amounts of fuel or energy?	-	-	✓
b. Substantial increase in demand upon existing sources of energy, or require the development of new energy sources?	-	-	✓
16. Utilities Will the proposal result in a need for new systems, or substantial alterations to the following utilities:			
a. Power or natural gas?	-	-	✓
b. Communications systems?	-	-	✓
c. Water?	-	✓	-
d. Sewer or septic tanks?	-	✓	-

16. Utilities (Cont'd.)

e. Storm water drainage?	-	✓	-
f. Solid waste and disposal?	-	✓	-
17. Human Health Will the proposal result in:			
a. Creation of any health hazard or potential health hazard (excluding mental health)?	-	-	✓
b. Exposure of people to potential health hazards?	-	-	✓
18. Aesthetics Will the proposal result in obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically-offensive site open to public view?	-	-	✓
19. Recreation Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?	-	-	✓
20. Cultural Resources Will the proposal:			
a. Result in the alteration of or the destruction of a prehistoric or historic archaeological site?	-	-	✓
b. Result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?	-	-	✓
c. Have the potential to cause a physical change which would affect unique ethnic cultural values?	-	-	✓
d. Restrict existing religious or sacred uses within the potential impact area?	-	-	✓

21. Mandatory Findings of Significance:

- | | Yes | Maybe | No |
|--|-----|-------|----|
| a. Does the project have the potential to degrade the quality of the environment, 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, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | — | — | ✓ |
| b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future). | — | — | ✓ |
| c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the total effect of those impacts on the environment is significant). | ✓ | — | — |
| d. Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly? | — | — | ✓ |

III. Discussion of Environmental Evaluation
(Narrative description of environmental impacts.)

IV. Determination
(To be completed by the Lead Agency.)

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A **NEGATIVE DECLARATION** WILL BE PREPARED.

I find the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

April 23, 1993
Date

Valley Planning Consultants, Inc.
For: Brian Cox, City Manager

Appendix B

Biotic Report

CROSSROADS COMMUNITY SPECIFIC PLAN BIOTIC ASSESSMENT

INTRODUCTION

A biotic assessment, including surveys for special status plant and wildlife species, and a wetlands assessment, was performed on the Crossroads Community Specific Plan site. Potential significant impacts were analyzed and measures intended to mitigate impacts to a less-than-significant level were prepared.

STUDY REGION

The planning area is located in the San Joaquin Valley, adjacent to the southern boundary of the City of Riverbank, Stanislaus County. The principal land uses in the planning area include agricultural, rural residential, mobile home parks, subdivisions, the Hetch Hetchy Water and Power (HHW&P) easement, and Modesto Irrigation District (MID) canals. Agricultural uses include irrigated pastures, orchards, cultivated fields and dairy feed lots.

PLANNING AREA

The Crossroads Community Specific Plan planning area is bordered on the north and east by the MID Main canal, Oakdale Road to the west, and Claribel Road to the south. The MID Lateral #6 canal crosses the southern portion of the planning area. The planning area encompasses 663 acres of relatively level valley floor topography. The primary existing land use on the site is irrigated pastures. Other land uses include cultivated fields, orchards, dairy feed lots, single-family residences and the HHW&P easement and MID canals.

METHODS

A review of documents and studies in the region, including the Stanislaus County General Plan Conservation and Open Space Element and the California Diversity Data Base (CNDDDB) records for Stanislaus County (1986), and consultation with California Department of Fish and Game (CDFG), U.S. Fish and Wildlife Service (FWS) and other sources were conducted to identify potential plants, wildlife and habitats of special status in the planning area. No records of sensitive species or habitats were available for the CNDDDB Riverbank Quad (CNDDDB Information Services personnel, pers. comm.). The California Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California (1994) was researched for special status plants that have the potential for occurring on the site, but which were not recorded with the CNDDDB.

A reconnaissance-level survey of the planning area was conducted on November 2, 1994 to identify the biotic resources of the planning area, focusing on sensitive habitats and special status plant and wildlife species. The planning area was traversed in a general manner on foot and in a vehicle, using an existing land use plan map as a guide. Topographic map and aerial photos were not available for the survey. Plant and wildlife species and habitat conditions observed were identified and recorded in notebooks and on field maps. An 8 x 40 power binocular was used to aid in wildlife observations. Some plant species were collected and later identified, using The Jepson Manual Higher Plants of California (J.C. Hickman ed. 1993). Based on the results of the reconnaissance, surveys for special status species and a wetlands

CROSSROADS COMMUNITY SPECIFIC PLAN BIOTIC ASSESSMENT CITY OF RIVERSIDE, STANISLAUS COUNTY

Prepared for

EMC Planning Group, Inc

Michael Groves

Prepared by

Bryan Mori Biological Consulting Services

Bryan Mori, Wildlife Biologist

Randall Morgan, Botanist

Ambessaw Assegued, Wetlands Ecologist

assessment were performed subsequently, as a part of this study. Discussions on methodologies and results of these studies are presented below (refer to Potential Wetlands and Special Status Species sections). Lists of vascular plants and wildlife species observed have been prepared as Appendices.

EXISTING CONDITIONS

The Crossroads Community Specific Plan site is a habitat mosaic of irrigated and non-irrigated pastures, cultivated fields, orchards, ruderal vegetation and areas supporting surface water (Figure 1). The distribution of vegetation communities probably change over time as land uses shift between pasture and cultivation, as was evidenced by the observation of plowed pastures. Habitat values of the planning area have been greatly reduced as a result of agricultural practices, and residential development, resulting in a landscape atypical of former valley floor habitats. Of the 120 plant species identified during this study, more than 71% (85 species) were non-native, and the majority of native plant species encountered are widely distributed in California, either as wetland associates or as opportunistic ruderal types ("weeds"). Most of the wildlife species observed and predicted to occur in the planning area are typically associated with grasslands and/or disturbed areas, and are expected to be found throughout the different vegetation communities on the site.

The habitats of the planning area are qualitatively described below, focusing on representative plant and wildlife species.

Pastures

Plants. Pastures are the predominant vegetation type in the planning area. Species composition varies slightly from pasture to pasture, depending on the frequency and amount of irrigation, and grazing and mowing practices, but the dominant species in nearly all fields were dallis grass and knotgrass (*Paspalum* sp.), Bermuda grass (*Cynodon dactylon*), dropseed (*Sporobolus indicus*), white clover (*Trifolium repens*), alfalfa (*Medicago sativa*) and plantain (*Plantago* sp.). Lower-lying portions of irrigated fields were dominated by hydrophytic species such as yellow waterweed (*Jussiaea repens*), knotweed (*Polygonum arenastrum*), and in one field spikerush (*Eleocharis* sp.). Johnson's grass (*Sorghum halpernense*) was abundant along field edges, roadsides and ditches. Several fields had been plowed during the course of this study.

Wildlife. The wildlife habitat values of the pastures vary depending on the frequency and amount of irrigation, and season. Frequent irrigation saturates the soils for prolonged periods throughout the year, and probably precludes the long-term establishment of burrowing mammal populations, especially in low-lying areas. The general lack of gopher, ground squirrel and mole burrows throughout most pastures was noteworthy and presumed to be the result of irrigation and discing practices. During migration and in winter, saturated fields are utilized as habitat by migratory waterbirds and shorebirds.

In general, the pastures provide habitat for wildlife species commonly associated with grasslands and disturbed areas. The abundance of cover, and herbaceous forage and seeds create habitat for a variety of rodents, rabbits and hares, including California meadow vole (*Microtus californicus*), western harvest mouse (*Reithrodontomys megalotis*), Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*) and black-tailed hare (*Lepus californicus*); gophers and ground squirrels were observed mostly in drier fields or along berms and raised areas along fence-lines. Seed-eating birds that commonly forage in pastures include red-winged blackbird (*Aegialitis phoeniceus*), Brewer's blackbird

(*Euphagus cyanocephalus*), European starling (*Sturnus vulgaris*), savannah sparrow (*Passerculus sandwichensis*) and house finch (*Carpodacus mexicanus*). Red-winged blackbird, ring-necked pheasant (*Phasianus colchicus*) and western meadowlark (*Sturnella neglecta*) may nest in pastures where vegetation is dense, and horned lark (*Eremophila alpestris actia*) in open areas or plowed fields. Grassland invertebrates provide an important prey base for species such as side-blotched lizard (*Uta stansburiana*), ornate shrew (*Sorex ornatus*), Say's phoebe (*Sayornis saya*), barn swallow (*Hirundo rustica*) and cliff swallow (*H. pyrrhonota*). Pastures also support predators such as gopher snake (*Pituophis melanoleucus*), western yellow-bellied racer (*Coluber constrictor*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), turkey vulture (*Cathartes aura*), barn owl (*Tyto alba*), red fox (*Vulpes fulva*) and coyote (*Canis latrans*).

Surface Water. Surface water is a requirement of many wildlife species. Areas supporting surface water are focal points of wildlife activity, as they provide opportunities for drinking, bathing, foraging, and reproduction for species that require aquatic habitat.

During fall and spring migration and in winter, pastures that support seasonal ponding provide habitat for waterbirds and shorebirds. Decaying plant matter and invertebrates in the soil provide forage for ducks and shorebirds such as mallard (*Anas platyrhynchos*), cinnamon teal (*Anas cyanoptera*), northern pintail (*Anas acuta*), American wigeon (*Anas americana*), long-billed curlew (*Numenius americanus*), long-billed dowitcher (*Limnodromus scolopaceus*), common snipe (*Gallinago gallinago*) and killdeer (*Charadrius vociferans*). Crayfish, bullfrogs (*Rana catesbeiana*), and mosquito fish (*Gambusia affinis*) were observed in a seasonal pond at the southeastern corner of the site; these species provide forage for great egret (*Casmerodius alba*) and snowy egret (*Egretta thula*).

Potential Wetlands

During the November 2, 1994 reconnaissance, portions of irrigated pastures supporting surface water or highly saturated soils were observed in the central area of the proposed project and in the southeast area east of Roselle Avenue. Plants growing in these areas were predominantly hydrophytic species (i.e., plants that flourish under wet conditions). Examples of these wet areas are depicted on Figure 1. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (COE) is required to issue permits for discharge of dredge or placement of fill into waters of the U.S., including adjacent wetlands. Wetlands as defined in the ACT are "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." The 1987 version of the COE's Federal Manual for Identifying and Delineating Jurisdictional Wetlands requires three parameters to be met for an area to be determined as a jurisdictional wetland: hydric soils, inundation/saturation for at least 14 consecutive days during a normal wet-season, and the presence of hydrophytic plant species (plants that require wet soils). Based on the initial observation of saturated areas and presence of hydrophytic plants, a wetlands assessment was performed on representative areas to determine the absence or presence of jurisdictional wetlands on the site.

A wetlands assessment was performed on April 21, 1995 by Assegued and Associates at the sites shown on Figure 1. Based on the results of the soil samples, the hydrophytic plant species composition and estimated percent coverage, and the observation of surface water and/or saturated soil conditions, the study sites were determined to be potential jurisdictional wetlands. Due to heavy rains that occurred during the interim between November 2, 1994 and the April 1995 field study, additional areas of the

proposed project were found to contain wetland characteristics when the April study was conducted. This finding indicates that other potential jurisdictional wetlands may occur on the site, including additional areas observed to support saturation or surface water during the spring spadefoot toad survey (Figure 1). This wetlands assessment was not (and could not be) intended to document all potential wetlands occurring on the project site, but only sites initially observed during the November 1994 reconnaissance. For full details refer to Appendix C: Crossroads Community Specific Plan Wetlands Assessment. The Specific Plan should be crafted to require future development to conduct wetlands delineations in consultation with the COE. In this manner, specific development proposals can be developed to meet the requirements for wetlands protection.

Cultivated Fields

Plants. Cultivated fields included corn (*Zea mays*) and fields plowed for hay production. Dallis grass and knoggrass were the principal plant species observed in hayfields; other species included lady's thumb (*Polygonum persicaria*) and bristlegass (*Setaria* spp.). In 1994, the cultivated field at the southwest corner of the site was planted in corn; in 1995, the same field was planted for hay production.

Wildlife. Many of the species discussed above for pastures are also expected to occur in the hayfields. Common species would include rodents and seed-eating birds. Horned larks may nest in mowed hayfields due to their open nature, while pheasants may seek cover in cornfields and forage on waste grain.

Orchard and Landscape Trees

Plants. Almond (*Prunus dulcis*) and walnut (*Juglans regia*) orchards occur in the planning area. The orchards appeared to be intensively managed to remove colonizing plants, as was evidenced by the lack of understory vegetation. A variety of landscape trees occurred along streets and near residential units.

Wildlife. Due to the lack of understory vegetation in the orchards, habitat values for ground dwelling and foraging species were considered marginal. However, mourning dove (*Zenaidura macroura*), western kingbird (*Tyrannus verticalis*), brewer's blackbird and loggerhead shrike (*Lanius ludovicianus*) may nest in orchard trees; while the almonds and walnuts provide forage for American crow (*Corvus brachyrhynchos*), yellow-billed magpie (*Pica nuttalli*), Virginia opossum (*Didelphis virginiana*) and raccoon (*Procyon lotor*). Landscape trees offer cover and nest sites for a variety of birds; a red-tailed hawk was observed nesting in a eucalyptus tree on April 19, 1995 (Figure 2).

Ruderal

Plants. Ruderal consists predominantly of non-native invasive species typical of disturbed areas (e.g., roadsides). This plant community mostly occurred in close proximity to residential units in the planning area. Plant species composition of ruderal vegetation was similar to that of pastures; however, the dominant species consisted of those invasive plants not typically sown for pastures. Representative species included craneshill (*Geranium dissectum*), summer mustard (*Hirschfeldia incana*), Johnson's grass, horseweed (*Conyza canadensis*) and pigweed (*Amaranthus* sp.).

Wildlife. Many of the wildlife species discussed above for pastures are also predicted to occur in ruderal vegetation. Typical species include rodents and seed-eating birds such as house mouse (*Mus musculus*), mourning dove, European starling, Brewer's blackbird and house finch.

SPECIAL STATUS SPECIES

Plants

The project site was assessed for the presence of special status plant species during the November 1994 reconnaissance. Of the 62 special status plant species listed for Stanislaus and/or San Joaquin Counties (CNPS 1994; CNDDB 1986), the majority were eliminated from further consideration as potentially occurring in the planning area due to one or more of the following reasons: (1) the known distributional range occurred outside of the planning area; (2) absence of sensitive species habitat on the project site; and (3) absence of specific edaphic (soil) conditions. Such species included succulent owl's clover (*Casilleja campersii*), Colusa grass (*Neostrophia coluana*), hairy Orcutt grass (*Orcuttia pilosa*) and Greene's tuctoria (*Tuctoria greeneri*). Only the following four species could not be conclusively ruled out on the basis of habitat conditions observed in November; these included Alkali milkvetch (*Astragalus tener* var. *tener*), brittle-scale (*Atriplex depressa*), spiny-sealed button-celery (*Eryngium spinosepallum*) and Wright's Trichocromis (*Trichocromis wrightii*). Table 1 summarizes the status, habitat and flowering period of the four special status plant species.

The majority of the planning area has no potential for supporting the special status plants mentioned above. However, a few areas, mostly in the southern half of the planning area, were considered potential suitable habitat due to the apparent lack of irrigation and presence of native plants not observed elsewhere on the site. The potential, however, was low considering the area's history of disturbance and the fact that all except for the spiny-sealed button-celery have been extirpated from many areas in the Central Valley.

Rare Plant Survey. A focused rare plant survey was conducted on May 28, 1995 to determine the absence or presence of the four special status species discussed above. The surveys focused on areas of potential habitat on the southern half of the site. No sensitive plants were observed, and none are expected to occur on the site due to the preponderance of non-native species and current land use practices. Observations of habitat conditions during the May 1995 survey confirmed previous assumptions on the marginal quality of the site.

Wildlife

Despite ongoing agricultural practices, the planning area provides habitat for sensitive wildlife. Seven sensitive wildlife species were identified as known or potential significant users of the planning area or immediate vicinity, based on literature review, accessing the CNDDB, consultation with specialists, and field survey (Table 2). Significant users are defined as those species that use or potentially use the planning area and vicinity for breeding, or as significant foraging or wintering habitat. These included State and Federal endangered and threatened species, Federal candidate species for listing, California species of special concern, and species meeting the definition of "rare" under CEQA Section 15380(d). The wildlife species of concern were western spadefoot toad, white-tailed kite, Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus cyaneus*), burrowing owl (*Speotyto cunicularia*), loggerhead shrike and horned lark. All except for the spadefoot toad and Swainson's hawk were observed on the site during the November 2, 1994 - April 21, 1995 surveys.

Other special status wildlife species were considered in this study including California linderniella (*Linderniella occidentalis*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*),

Table 1. Status, Habitat and Blooming Period for Special Status Plants with Potential to Occur on the Crossroads Community Specific Plan Site, Riverside Stanislaus County.

SCIENTIFIC NAME COMMON NAME	HABITAT	CNPS'	S'	F'	BLOOMING PERIOD
<i>Astragalus tener</i> var. <i>tener</i> Alkali Milkvetch	valley grassland	List 1B; 3-2-3	*	-	March - June
<i>Atriplex depressa</i> Brittlescale	valley grassland	List 1B; 2-2-3	*	-	May - October
<i>Eryngium spinosepalum</i> Spiny-sepaled button-celery	valley grassland	List 1B; 3-2-3	*	C2	April - May
<i>Trichocoronis wrightii</i> Wright's Trichocoronis	meadows	List 2	*	-	May-June

Codes:

1. California Native Plant Society status: List 1B = Plants rare, threatened or endangered in California, or elsewhere; List 2 = Plants rare, threatened or endangered in California, but common elsewhere.
2. State status: * = species on CNPS Lists 1A, List 1B and List 2 are protected by Section 1901, Chapter 10 of the California Department of Fish and Game Code (Native Plant Protection).
3. U.S. Fish and Wildlife Service status: C2 = threat and/or distribution data insufficient to support federal listing.

Table 2. Special Status Wildlife Species of Known or Potential Occurrence on the Crossroads Community Specific Plan Site, City of Riverbank, Stanislaus County.

SPECIES	STATUS	HABITAT	OCCURRENCE
Western Spadefoot Toad	CSC, C2	Potential terrestrial habitat in pastures; sites supporting ponding may be used as a breeding pools	P
Swainson's Hawk	CT	Potential foraging habitat includes pastures and hayfields.	P
White-tailed Kite	FP	Cultivated fields and pastures for foraging; potential nesting in orchard and landscape trees	O
Northern Harrier	CSC	Cultivated fields and pastures for foraging; potential nesting in ungrazed pastures supporting tall vegetation	O
Burrowing Owl	CSC	Pastures for foraging; ground squirrel burrows for roosting	O
Loggerhead Shrike	CSC	Cultivated fields and pastures for foraging; potential nesting in orchard and landscape trees	O
Horned Lark	CSC, C2	Grazed pastures, alfalfa fields and bare fields for foraging and potential nesting	O

Status Codes: C2 = federal Candidate 2 for listing as threatened or endangered; CT = California Threatened; CSC = California species of special concern; FP = State fully protected species. Occurrence: P = Potential occurrence in the study area; O = Observed in the study area on November 2, 1994 - April 21, 1995 surveys.

California tiger salamander (*Ambystoma tigrinum californiense*), giant garter snake (*Thamnophis gigas*), blunt-nosed leopard lizard (*Gambelia silae*), Aleutian Canada Goose (*Branta canadensis leucoparia*), Swainson's hawk (*Buteo swainsonii*), riparian brush rabbit (*Sylvilagus bachmani riparius*) and San Joaquin kit fox (*Vulpes macrotis mitchellii*). However, these species were eliminated from further consideration due to one or more of the following reasons: (1) lack of suitable habitat in the planning area; (2) the planning area lies outside of the species' current distributional range; (3) the species occurrence in the planning area is expected to be primarily as transients; and (4) the species is believed to be extirpated from region.

The following text presents a detailed description of the status, distribution, habitat requirements, and pattern of occurrence of special status wildlife species known or of potential occurrence in the planning area.

Western Spadefoot Toad. The western spadefoot toad is a state species of special concern. Spadefoot toads occur throughout the Central Valley, the inner Coast Ranges from the San Francisco Bay area to Santa Barbara, and along the outer Coast Ranges from Santa Barbara to Baja California. The spadefoot toad primarily occurs in valley floor and foothill grasslands of friable soils, but are also known to persist in orchards, vineyards and pastures (M. Jennings, pers. comm.; J. Brode, pers. comm.; Storer 1925). During the non-breeding season, adults aestivate away from breeding pools in self-created burrows, and occasionally rodent burrows, down to 36 inches deep (CDFG 1988). Aestivation may last up to 3 years (M. Allaback, pers. comm.). Spadefoot toads emerge at night during the spring rainy season to breed in ephemeral ponds (Stebbins 1985), then seek refuge during the day in newly-created burrows near the breeding site (Ruilhal *et al.* 1969). Eggs are attached to vertical stems of grasses and other plants. Larvae transform into juveniles and leave the water in approximately 1 month after hatching. Juveniles burrow soon after leaving the breeding site. The reasons for this species' decline in California include loss of habitat from urbanization and intensive agriculture. In the Central Valley, records of spadefoot toads become more numerous south of San Joaquin County (J. Brode, pers. comm.).

Survey Methods and Results. A focused survey for western spadefoot toad. The study consisted of larval sampling at seven potential breeding ponds (Figure 3). Sampling was performed on March 31 and April 19, 1995 to span the period when larva were expected to be present if the species occurred on the site. A dipnet was used to sample all potential breeding sites. All aquatic sites permitted thorough sampling due to the absence of dense vegetation, and manageable water depths. Amphibians detected were identified to species in the field and recorded on pretormatted data sheets. Qualitative data on pond size, vegetation, water depth, surface temperature and turbidity, and invertebrates observed were also recorded. Each aquatic site sampled was photographed.

No western spadefoot toads were observed during the Spring 1995 surveys. Bullfrog adults and juveniles were observed at Sites No. 1 and 2. No other amphibians were observed on the project site. Other species sampled included mosquitofish (*Gambusia affinis*), crayfish (Decapoda), nematodes, dragonfly naiads (Odonata), mosquito larvae (Culicidae), diving beetles (Dytiscidae), scavenger beetles (Hydrophilidae), backswimmers (Notonectidae), waterboatmen (Curixidae), daphnia (*Daphnia* spp.), seed shrimp (Ostracoda) and sideswimmers (Amphipoda).

Of the potential breeding sites sampled, only Sites No. 1, 6 and 7 supported water for the duration required for successful reproduction of spadefoot toads; Sites No. 2, 3, 4 and 5 were dry on April 19. However, the negative results of the study indicated that western spadefoot toads do not occur on the project site, especially since the study was performed during an above-normal 1994-95 rainy season. This

suggests that historic and current agricultural land use practices in the project area may have created unsuitable upland habitat conditions for spadefoot toads, as well as other amphibians, such as the ubiquitous Pacific treefrog (*Pseudacris regilla*) and western toad (*Bufo boreas*), species which are commonly found but were also absent from the project area. The absence of bullfrog larvae at Sites No. 1 and 2, indicated that the juveniles and adults observed do not breed on the site during normal rainfall years, but most likely dispersed into the area from nearby population centers or from the adjacent MID canal during high flow flows.

Swainson's Hawk. The Swainson's hawk is listed as a Threatened species under the California Endangered Species Act (Chapter 1.5 Fish and Game Code) (CDFG 1990). Swainson's hawks are long-distant migrants, breeding in northwestern Canada, western U.S. and Mexico, and wintering in South America. Formerly abundant and widespread in California, this species' California distribution consists of two populations: one in northeastern California in Modoc, Siskiyou and Lassen Counties, and the other in the Central Valley, primarily in the southern Sacramento and northern San Joaquin Valleys (Estep 1988). Central Valley Swainson's hawks are primarily associated with open grasslands and agricultural lands. Nesting habitat consists of riparian trees, oak groves, and roadside trees adjacent to and within 18 miles of foraging habitat (Estep *ibid.*); cottonwoods and valley oaks are the most frequently used nest trees in the Central Valley. California vole (*Microtus californicus*) and ground squirrels are preferred prey for Swainson's hawks. Nesting birds of the Central Valley arrive from wintering grounds in March, with the young fledging by the end of July (Estep 1988). This species is threatened by conversion of grasslands to crops, the spread of urban development into grasslands and agricultural lands, reductions of oak woodlands in the Central Valley, pesticide residues, and destruction of wintering habitat in South America (Blotum 1980; Estep 1988; Remsen 1978). Bloom (1980) determined that the California breeding population declined 91% from its historic population size estimated at 4,284 - 17,136 pairs down to 375 pairs in 1979.

A pair of Swainson's hawks was observed displaying courtship behavior along the Stanislaus River near the intersection of McHenry Road and River Road in Stanislaus County on April 19, 1995 (pers. obs.). Another pair had been previously reported along the Stanislaus River adjacent and north of the City of Riverbank (EMC 1993). CDFG considers Swainson hawk nesting habitat to include a 10-mile radius around active nest sites, based on studies showing this species to range up to 18 miles when foraging (Estep 1988; CDFG 1990). Therefore, the pastures and hayfields in the planning area are considered potential Swainson's hawk foraging habitat (CDFG letter, Appendix D).

Northern Harrier. The northern harrier is a state species of special concern (breeding population). Northern harriers range throughout the state from the coast up to 5700 feet in the Sierra. Harriers are primarily birds of open country and are seldom found in wooded habitats. Northern harriers nest in marsh habitats with tall emergent vegetation and in tall grasslands, constructing their nests on the ground. Fallow fields and grain fields are also used where suitable habitat is lacking. This species is threatened by destruction of marsh habitats, the spread of urban and agricultural development into grasslands, and overgrazing by livestock (Remsen 1978). The northern harrier is becoming less common as a breeding species in the Central Valley (CDFG 1990).

Northern harriers were observed foraging on and adjacent to the project site during the November 2, 1994 - April 21, 1995 surveys. In the planning area, pastures that support tall vegetation may provide breeding habitat for this species. Hayfields may also provide nesting habitat, depending on when the

crops are mowed. Mortality to nesting harriers due to mowing or plowing in grain fields have been documented in the Central Valley (D. Yee, pers. comm.).

White-tailed Kite. The white-tailed kite is designated a "fully protected" species by CDFG. Once considered endangered in California due to primarily to shootings, kite populations have since increased significantly. Agricultural development, which has increased the vulture population in the Central Valley, has contributed to this species' comeback (USFWS 1987). White-tailed kites are most frequent in oak savannah and agricultural habitats where occasional trees occur. Kites nest in trees located near foraging habitat (CDFG 1986). The nesting season spans January to July. During winter, communal roost sites support as many as 175 kites (USFWS *ibid.*), although high numbers of roosting kites are rare. In the San Joaquin Valley, white-tailed kites are fairly common breeding birds (D. Yee, pers. comm.).

White-tailed kites were observed on the site during the November 2, 1994 and April 21, 1995 survey. The April observation was of a pair flying into the orchard on the project site. Landscape and orchard trees provide potential nesting habitat for this species. Foraging habitat occurs throughout the project region.

Burrowing Owl. The burrowing owl is a state species of special concern. Burrowing owls require open, valley grassland habitat, with short to moderate vegetation height and cover, areas of bare ground, and populations of burrowing mammals (DeSante 1991). This species depends on burrows of small mammals, most notably ground squirrels, for nest and roost sites; although manmade structures may also serve this function (Collins 1977). Raised areas and fence-lines near burrows serve as vantage points. Burrowing owls are crepuscular in habit, but are also active at night, and found perched outside of burrows during the day. The California population consists of both residents and winter migrants. This species has experienced a serious decline throughout the state as a result of habitat loss from agriculture and urbanization, and probably from the secondary effects of ground squirrel poisoning programs (Remsen *ibid.*). DeSante (1992) indicates that the central California burrowing owl breeding population may be as low as 925 pairs, and that the breeding population of burrowing owls in central California may have declined up to 65% over the decade spanning 1981-91. In the San Joaquin and Stanislaus County area, the number of breeding and wintering owls have declined over the last 10 years (D. Yee, pers. comm.). Colonies of up to 30 birds still persist in a few sites on the valley floor, but burrowing owls become decidedly rare away from the valley floor proper (D. Yee, pers. comm.). Nesting by owls at the edges of alfalfa fields has been documented in the Central Valley (Conroy and Chesebrough 1987).

One burrowing owl was observed in the planning area near the central portion of the site on November 2, 1994. The planning area probably does not support a breeding population of this species based on: (1) their pattern of distribution in the region; (2) the general lack of ground squirrel burrows in the planning area; and (3) the absence of owl sign (i.e., pellets, excrement) at observed ground squirrel burrows. The owl may have likely been a transient or wintering migrant. Potential roosting habitat occurs on the field where the burrowing owl was observed; there ground squirrel burrows were present in moderate numbers (Figure 2).

Loggerhead Shrike. The loggerhead shrike is a Candidate 2 species for federal listing as threatened or endangered. Loggerhead shrikes occur in grasslands and agricultural areas with scattered trees and shrubs. Shrikes feed on insects, reptiles, small mammals and birds. Large prey are impaled on thorns or barbed wire to facilitate prey consumption, as this species lacks talons. Nests are usually built in trees and shrubs; however, structures such as telephone poles, and abandoned buildings and machinery are also

habitat for white-tailed kite, northern harrier, loggerhead shrike and horned lark; and (3) wintering habitat for burrowing owls. Western spade-foot toads were determined not to occur on the project site, based on the results of a focused survey performed as a part of this study.

Impact. The eventual buildout of the Specific Plan would result in the loss of potential foraging habitat (pastures, alfalfa fields and hayfields) for the State Threatened Swainson's hawk. Based on consultation with Jeff Single, Environmental Specialist, CDFG, Region IV, CDFG recommends mitigation for loss of foraging habitat within 10-miles of active nest sites (refer to CDFG letter response to the project, Appendix D). Since the Specific Plan site is within the 10-miles radius of known nest sites, the loss of foraging habitat would be considered a significant impact. Implementation of Mitigation Measure No. 2 is intended to reduce impacts to a less-than-significant level.

Mitigation Measure No. 2

Preserve foraging habitat (existing agricultural land used for hay, grains, pasture, low-growing crops) on- or off-site at a minimum ratio of 1:0.5 in perpetuity, as recommended by CDFG (refer to Appendix D). An estimated 400 - 500 acres of potential foraging habitat may be lost as a result of the project. The selection of mitigation sites must be performed in consultation with CDFG and approved by CDFG prior to project approval.

Impact. Breeding burrowing owls are not expected to occur on the site, based on the habitat conditions observed and their current patterns of occurrence in the region. However, the observation of one burrowing owl during the November survey indicated that the site does provide wintering habitat. Therefore, projects proposed for the planning area could result in the mortality of wintering burrowing owls. This would be considered to be a significant impact due to the status of this species as a CDFG species of special concern. The implementation of Mitigation Measure No. 3 is intended to reduce the impacts to a less-than-significant level.

Mitigation Measure No. 3

Pre-construction surveys for active burrowing owl dens shall be required of all proposed projects including or adjacent to the area of potential wintering identified in this study. The survey shall be conducted by a qualified wildlife biologist thirty days prior to the start of the project. If present, the owls shall be passively relocated to off-site habitat contiguous with the project site. Relocation of the owls shall be performed by a qualified wildlife biologist, in coordination with CDFG. In the event that burrowing owls are determined to be nesting, the owls shall be relocated after a wildlife biologist has determined that the young have fledged. Passive relocation involves installing one-way doors in burrow entrances. The relocation shall be monitored for one week to confirm use of alternate burrows. Original burrows shall be filled to prevent reuse.

Impact. Tree removal and/or grading activities of projects proposed in the planning area could result in incremental loss of nesting habitat, and possibly the loss of young or eggs of white-shouldered kite, red-tailed hawk, northern harrier, loggerhead shrike and horned lark due to incidental take or indirect impacts near nest sites. Habitat loss in and of itself would not be considered significant due to the presence of suitable habitat in annual grasslands east of Riverbank and in agricultural landscapes throughout the region. However, mortalities would be considered significant given the special status of

used. This species has been experiencing a significant decline throughout its range in the U.S. and Canada (Tate 1986; Point Reyes Bird Observatory *Observer* 93:12; Ehrlich *et al* 1992). In the San Joaquin and Stanislaus County area, shrikes are fairly common, but have declined by approximately 50% over the last 15 years (D. Yee, pers. comm.). Shrikes become more numerous away from the valley floor in oak savannah habitat (D. Yee, pers. comm.).

A loggerhead shrike was observed in the central portion of the planning area on November 2, 1994. The orchard and landscape trees throughout the planning area provide potential nest sites. The shrike most likely nests on or adjacent to the planning area.

Horned Lark. The California subspecies of the horned lark is a Candidate 2 species for listing as federally threatened or endangered. This species is distributed along coastal California from Sonoma County south to San Diego County, and inland throughout the San Joaquin Valley. Horned larks nest in short-grass prairies on level to moderate relief, mountain meadows, open coastal plains, active and fallow grain fields, bare fields and alkali flats. Agricultural and urban development have reduced this species habitat, especially in the Central Valley. In the San Joaquin Valley, horned larks have been observed to nest on bare fallow fields and in grain fields where suitable grasslands are lacking (D. Yee, pers. comm.).

Several horned larks were observed throughout the planning area during the November 2, 1994 survey. Based on the habitat requirements of this species, bare to sparsely vegetated fields in the planning area could provide nesting habitat. Suitable nesting sites could include grazed pastures, alfalfa fields and plowed fallow fields, depending on the timing of irrigation and harvesting practices.

IMPACTS AND MITIGATION MEASURES

The Crossroads Community Specific Plan was analyzed for potential impacts to biological resources. Impacts on vegetation and wildlife were considered significant if the proposed project would potentially result in: reductions in populations of rare, threatened or endangered species or species that may be considered "rare" under CEQA Section 15380(d), including CDFG species of concern and federal Candidate species; the reduction or degradation of wetlands; or the reduction or degradation of habitats or resources of high wildlife value. Measures that are intended to reduce the level of significant impacts to a less-than-significant level are listed following each impact statement. Where more than one mitigation option is presented for a specific impact, the measures are listed to reflect the hierarchy established in the California Environmental Quality Act (CEQA): avoidance, minimization and compensation (on- or off-site).

Rare Plants

Impact. No special status plants were observed within the Crossroads Community Specific Plan site during a focused survey on May 28, 1995 performed as a part of this study. No rare plants are expected to occur on the site due to the site's marginal habitat conditions due to past and current agricultural practices. No mitigation is required.

Potential Wetlands

Based on the wetlands assessment performed on the Crossroads planning area, at a minimum, 1.7 acres of potential jurisdictional wetlands occur on the site. Other areas that may qualify as jurisdictional wetlands are expected to occur elsewhere on the site, as other saturated or ponded areas were observed during a spring survey for western spadefoot toads.

Impact. The eventual buildout of the Specific Plan would result in the fill and/or degradation of potential jurisdictional wetlands. The policy of the COE, as well as CDFG, is to permit no net loss of functions and values of wetlands. Under the Section 404 Clean Water Act, the COE is required to issue permits for discharge of dredge or placement of fill into waters of the U.S., including adjacent wetlands. In the event the wetlands are determined to be jurisdictional wetlands, conversion of these areas without the required permits obtained from the COE prior to project approval would be in violation of the 404 Clean Water Act. Therefore, the proposed project could result in significant impacts. Implementation of either Mitigation Measure 1a or 1b is intended to reduce significant impacts to a less-than-significant level as presented below.

Mitigation Measure No. 1a

An additional wetlands assessment should be conducted by a qualified wetlands specialist to determine the full extent of potential jurisdictional wetlands on the planning area. The Specific Plan shall be redesigned to avoid all potential wetlands and include such areas in a designated open space. Specific protective measures and a monitoring program shall be prepared by a qualified wetlands specialist and approved by CDFG prior to project approval.

Mitigation Measure No. 1b

Additional wetlands assessments shall be required for future individual projects proposed under the Specific Plan. The wetlands assessments should be conducted by a qualified wetlands specialist to determine the presence or absence of potential jurisdictional wetlands on the project site. Depending on the total wetlands acreage, the project would either require an Individual 404 Permit or Nationwide Permit. For wetlands totaling under 10 acres, a pre-discharge notification needs to be submitted to the COE to determine if the project qualifies under a Nationwide Permit; mitigation may or may not be required under this scenario. For areas totaling 10 acres or greater, the project applicant must apply for an Individual Permit, which requires the attachment of a mitigation and monitoring plan, plus an analysis of alternative site designs. Mitigation measures may include redesign of the Specific Plan to avoid wetlands; minimizing impacts to wetlands plus on- or off-site replacement at a maximum ratio of 3:1; or off-site acquisition of "in kind" wetlands at a minimum 1:1 ratio. In the event that an Individual 404 permit is required, mitigation measures must address avoidance as an alternative in order for the permit application to be considered by the COE.

Wildlife Species of Special Concern

Despite ongoing agricultural practices, six wildlife species of special status were identified as known or potential significant users of the planning area. Wildlife resources which pose a constraint to projects proposed under the Specific Plan include: (1) potential foraging habitat for Swainson's hawk; (2) nesting

these species and/or their protection under the Migratory Bird Treaty Act. Two options (4a or 4b) are presented for Mitigation Measure No. 4.

Mitigation Measure No. 4a

Proposed projects shall be required to schedule tree-removal and grading activities to begin during the non-breeding season (August 1 through March 15). The scheduling of construction activities in this manner is intended to discourage use of the site for nesting and is less likely to result in incidental mortalities.

Mitigation Measure No. 4b

Nest surveys for the species in question shall be conducted by a qualified wildlife biologist prior to the start of construction activities for projects scheduled to begin during the breeding season (March 15 - July 31). If a nest is found and eggs or nestlings are present, the start of the project shall be scheduled to begin after the young have fledged, as determined by a wildlife biologist. If no nests are found, then construction activities could begin immediately.

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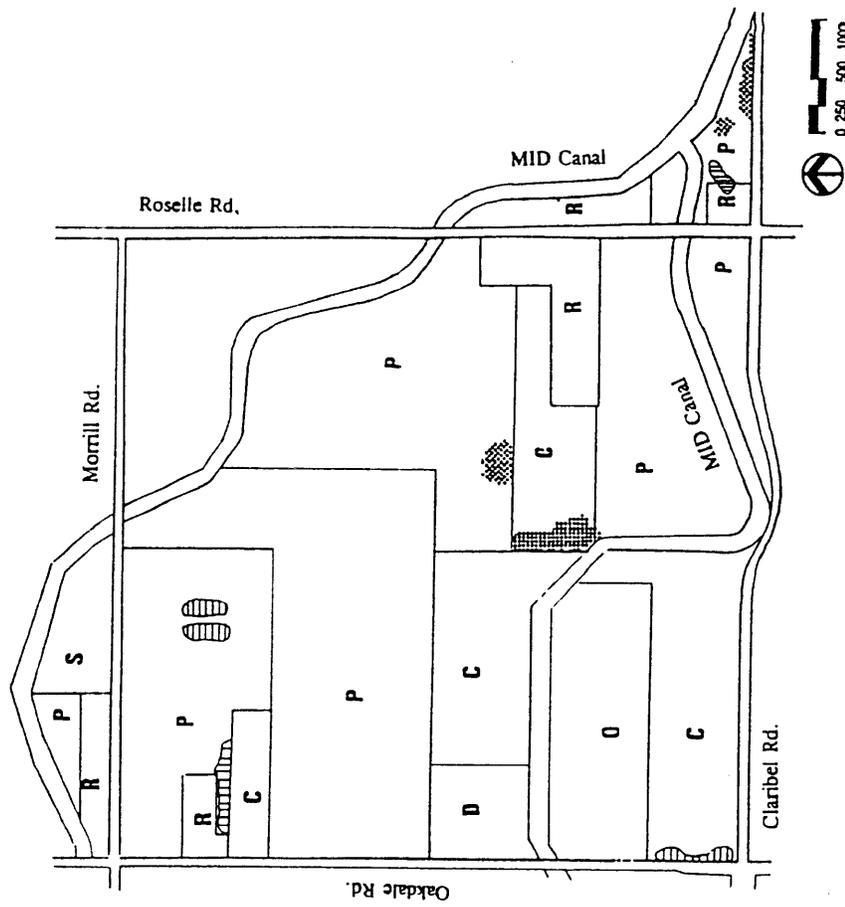
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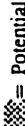
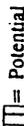
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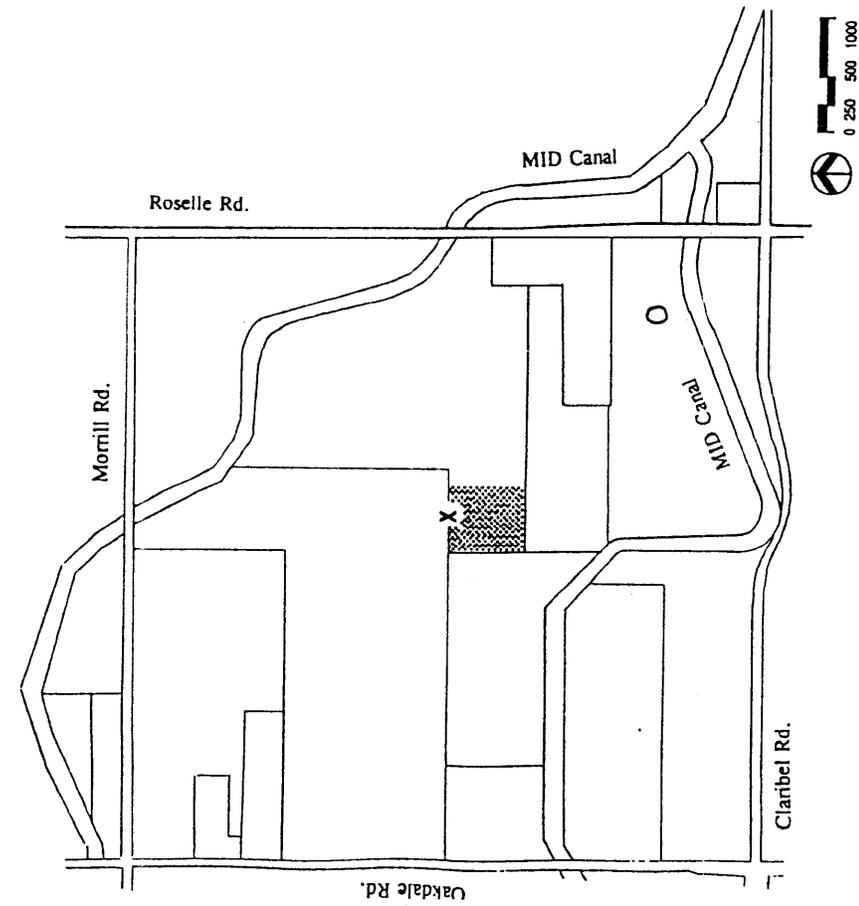
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- P = Pasture
- C = Cultivated (Hay)
- R = Ruderal
- D = Dairy
- O = Orchard
- S = Subdivision
-  = Potential Jurisdictio Wetlands
-  = Potential Wetlands



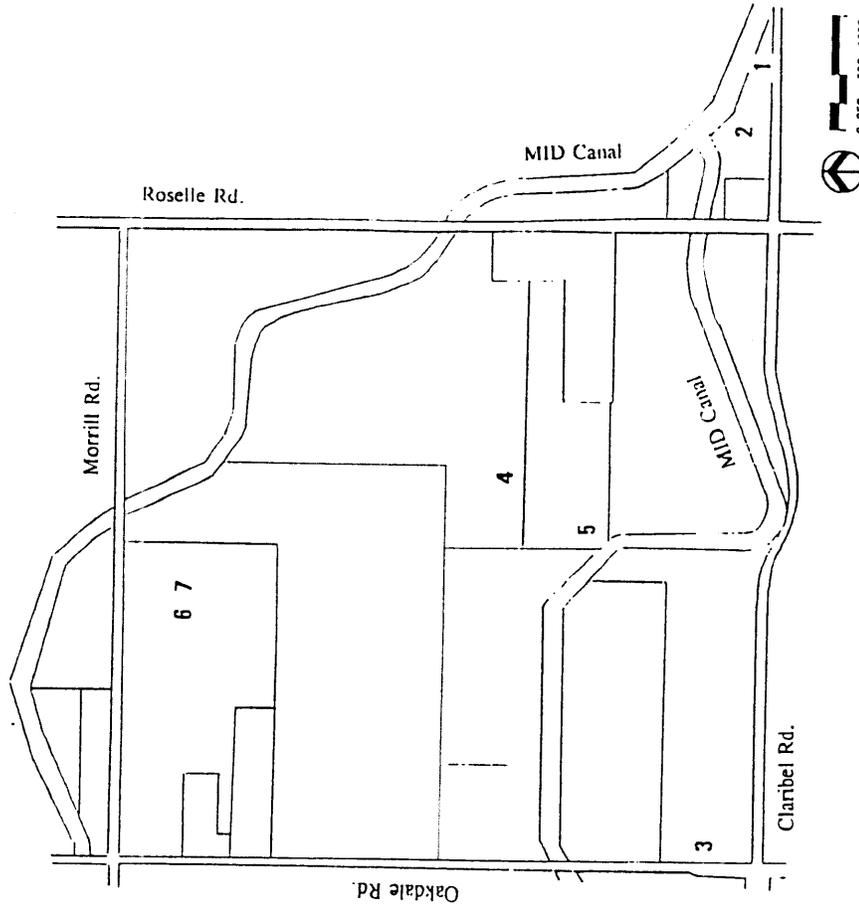
X = Burrowing Owl Observation (Nov. 2, 1994)
 [Hatched Area] = Potential Burrowing Owl Wintering Habitat
 O = Red-tailed Hawk Nest

Bryan M. Mori
 Biological Consulting Services
 (408) 728-1041

Crossroads Community Specific Plan Biotic Assessment
 Riverbank, California

Figure 2: Red-tailed Hawk Nest and Burrowing Owl Observation

June 1995



#1 - 7 = Western Spadefoot Toad Sample Sites

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 (408) 728-1041

Crossroads Community Specific Plan Biotic Assessment
 Riverbank, California

Figure 3: Western Spadefoot Toad Sample Sites

June 1995

Appendix A. Plants Observed on the Crossroads Specific Plan Planning Area, Riverbank, Stanislaus County, 2 November 1994 and May 28, 1995.

Key: * = Non-native plant species
 ? = Identification uncertain due to poor condition of flowering parts

Grasses, Sedges, Rushes and Herbs

- * *Amaranthus* sp. (Pigweed)
- Ammonia* sp. (Ammonia)
- Aster subulatus* (Annual Aster)
- Avena fatua* (Wild Oat)
- * *Briqa minor* (Least Quaking Grass)
- * *Bromus catharticus* (Rescue Grass)
- * *Bromus diandrus* (Ripgut Grass)
- * *Bromus hordeaceus* (Soft Chess)
- * *Bromus stamineus* (Chilean Brome)
- * *Carduus* sp. (Plumeless Thistle)
- * *Carex feta* (Sedge)
- * *Centaurea solstitialis* (Star Thistle)
- * *Cerastium viscosum* (Chickweed)
- * *Claris* sp. (Fingergrass)
- * *Chenopodium album* (Lamb's-quarter)
- * *Chenopodium* sp. (Goosefoot)
- * *Cirsium vulgare* (Bull Thistle)
- * *Convolvulus arvensis* (Bindweed)
- * *Cyniza bunariensis* (Horseweed)
- * *Cyniza canadensis* (Horseweed)
- * *Cyniza* sp. (Horseweed)
- * *Cynodon dactylon* (Bermuda Grass)
- * *Cyperus difformis* (Nutsedge)
- * *Cyperus eragrostis* (Nutsedge)
- * *Cyperus niger* (Nutsedge)
- * *Dactylis glomerata* (Orchard Grass)
- * *Datura ferox* (Thorn-apple)
- * *Datura stramonium* (Jimson Weed)
- * *Deschampsia danthonioides* (Annual hairgrass)
- * *Digitaria sanguinalis* (Crabgrass)
- * *Distichlis spicata* (Saltgrass)
- * *Echinochloa crusgalli* (Watergrass)
- * *Eleocharis macrostachya* (Creeping Spikerush)
- * *Eleocharis acicularis* ? (Least Spikerush)
- * *Eleocharis* sp. (Spikenush)
- * *Epilobium puncticulatum* (Willow-herb)
- * *Eragrostis pectinacea* (Lovegrass)
- * *Erenurus arvensis* (Dove-weed)
- * *Erodium cicutarium* (Filaria)
- * *Erodium botrys* (Storksbill)
- * *Euthamia occidentalis* (Western Goldenrod)

Appendix A, continued.

- * *Festuca arundinacea* (Tall Fescue)
- * *Geranium dissectum* (Cranesbill)
- * *Glyceria occidentalis* (Northwestern Manna Grass)
- * *Gnaphalium luteo-album* (Cotton-bating Plant)
- * *Gnaphalium stramineum* (Everlasting)
- * *Gnaphalium purpureum* (Cudweed)
- * *Grindelia camporum* (Cumpplant)
- * *Helianthus annuus* (Sunflower)
- * *Hemizonia pungens* (Spikeweed)
- * *Heterotheca grandiflora* (Telegraph Weed)
- * *Holcus lanatus* (Velvet Grass)
- * *Hordeum marinum gusoneanum* (Mediterranean Barley)
- * *Hordeum murinum leporinum* (Foxtail Barley)
- * *Hordeum glabra* (Smooth Cat's-ear)
- * *Hypochoeris radicata* (Rough Cat's-ear)
- * *Juncus acuminatus* (Taper-tip Rush)
- * *Juncus bufonius* (Toad Rush)
- * *Juncus effusus pacificus* (Bog Rush)
- * *Juncus tenuis* (Slender Rush)
- * *Justicia repens* (Yellow Waterweed)
- * *Lactuca scariola* (Prickly Lettuce)
- * *Lolium corniculatum* (Bird's-foot Trefoil)
- * *Lolium perene* (Perennial Ryegrass)
- * *Lolium multiflorum* (Italian Ryegrass)
- * *Ludwigia pepioides* (Floating Scudbox)
- * *Lythrum hyssopifolia* (Hyssop Loosestrife)
- * *Malva parviflora* (Cheeseweed)
- * *Malva sylvestris* (High Mallow)
- * *Medicago polymorpha* (Bur-clover)
- * *Medicago sativa* (Alfalfa)
- * *Oxalis corniculata* (Creeping Woodsorrel)
- * *Paspalum dilatatum* (Dallis Grass)
- * *Paspalum distichum* (Knobgrass)
- * *Phalaris minor* (Canary Grass)
- * *Pitris ethioides* (Bristly Ox-tongue)
- * *Plantago major* (Common Plantain)
- * *Plantago lanceolata* (English Plantain)
- * *Plantago coronopus* (Cultleaf Plantain)
- * *Poa pratensis* (Kentucky Bluegrass)
- * *Poa annua* (Annual Bluegrass)
- * *Polygonum arenastrum* (Common Knotweed)
- * *Polygonum hydropiper* (Waterpepper)
- * *Polygonum perfoliatum* (Lady's Thumb)
- * *Polygonum punctatum* (Knotweed)
- * *Polygonum monspeliensis* (Rabbit-foot Grass)
- * *Ranunculus muricatus* (Crowfoot)
- * *Ranunculus sceleratus* (Crowfoot)

Handwritten signature: Hirschfeld

Appendix B, continued.

ORDER: COLUMBIFORMES (Pigeons and Doves)
 FAMILY: COLUMBIDAE (Pigeons and Doves)
 Rock Dove (*Columba livia*)
 Mourning Dove (*Zenaidura macroura*)

ORDER: STRIGIFORMES (Owls)

Burrowing Owl (*Athene cunicularia*)

ORDER: PICIFORMES (Woodpeckers and Relatives)
 FAMILY: PICIDAE (Woodpeckers and Wrynecks)
 Northern Flicker (*Colaptes auratus*)

ORDER: PASSERIFORMES (Perching Birds)

FAMILY: TYRANNIDAE (Tyrant Flycatchers)

Black Phoebe (*Sayornis nigricans*)

FAMILY: ALAUDIDAE (Larks)

Horned Lark (*Eremophila alpestris actia*)

FAMILY: HIRUNDINIDAE (Swallows)

Cliff Swallow (*Hirundo pyrrhonata*)

Barn Swallow (*Hirundo rustica*)

FAMILY: CORVIDAE (Jays, Magpies, and Crows)

Yellow-billed Magpie (*Pica nuttalli*)

American Crow (*Corvus brachyrhynchos*)

FAMILY: TROGLODYTIDAE (Wrens)

Marsh Wren (*Citroborus palustris*)

FAMILY: MUSCICAPIDAE (Old World Warblers, Gnatcatchers, Kinglets,

Thrushes, Bluebirds, and Wrenlets)

Western Bluebird (*Sialia mexicana*)

FAMILY: MOTACILLIDAE (Wagtails and Pipits)

Water Pipit (*Anthus spinoletta*)

FAMILY: LANIDAE (Shrikes)

Loggerhead Shrike (*Lanius ludovicianus*)

European Starling (*Sturnus vulgaris*)

FAMILY: STURNIDAE (Starlings)

FAMILY: EMBERIZIDAE (Wood Warblers, Sparrows, Blackbirds, and Relatives)

Savannah Sparrow (*Passerculus sandwichensis*)

White-crowned Sparrow (*Zonotrichia leucophrys*)

Western Meadowlark (*Sturnella neglecta*)

Red-winged Blackbird (*Agelaius phoeniceus*)

Brewer's Blackbird (*Euphagus cyanocephalus*)

FAMILY: FRINGILLIDAE (Finches)

House Finch (*Carduelis mexicanus*)

FAMILY: PASSERIDAE (Weaver Finches)

House Sparrow (*Passer domesticus*)

Appendix B, continued.

CLASS: MAMMALIA

ORDER: RODENTIA (Squirrels, Rats, Mice, and Relatives)
 FAMILY: SCURIDAE (Squirrels, Chipmunks, and Marmots)
 California Ground Squirrel (*Spermophilus beecheyi*)
 FAMILY: GEOMYIDAE (Pocket Gophers)
 Bott's Pocket Gopher (*Thomomys bottae*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves, and Relatives)

Red Fox (*Vulpes vulpes*)

FAMILY: PROCYONIDAE (Raccoons and Relatives)

Raccoon (*Procyon lotor*)

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WETLAND ASSESSMENT

FOR THE
CROSSROADS COMMUNITY SPECIFIC PLAN
CITY OF RIVERBANK, STANISLAUS COUNTY, CALIFORNIA

Prepared for:

Bryan M. Mori
Biological Consulting Services

1016 Brewington Avenue
Watsonville, CA 95076

APPENDIX C: WETLANDS ASSESSMENT

Prepared by:

Assegued & Associates

Ecological Consulting Services

1800 Smith Grade
Santa Cruz, CA 95060
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June 12, 1995

TABLE OF CONTENTS

I. INTRODUCTION

During April-May 1995, Assegued & Associates conducted a wetland assessment study for the proposed Crossroad Community Specific Plan Project in Stanislaus County, California. The wetland study was conducted to identify potential jurisdictional areas under the U.S. Army Corps of Engineers' (Corps) authority under Section 404 of the Clean Water Act. A field investigation and reviews of the available pertinent documents were performed, as well as contacting various individuals in government agencies who provided some background material.

II. PROJECT LOCATION

The Crossroads Community Specific Plan area ("planning area") is located in San Joaquin Valley, just north of the City of Modesto in Stanislaus County, California. The planning area consists of 687 acres bordered by the City of Riverbank to the southwest; to the north and east by the Modesto Irrigation District; to the south by Claribel Road; and to the west by Oakdale Road, Figure 1 and Figure 2. The planning area is bisected by a 110-foot wide Heich-Heichy Water and Power easement (owned by the City/County of San Francisco), which crosses its southern portion. In addition, two irrigation-canals, owned by the Modesto Irrigation District (MID), enter the site just south of the Heich-Heichy parcel on Roselle Avenue. The MID Main canal forms the northern/eastern boundary of the planning area, and the MID Lateral #6 traverses the southern half of the site.

III. ENVIRONMENTAL SETTING

The following description of the environmental setting for the study area is based on the biotic assessment for the planning area performed by Bryan Mori Biological Consulting Services (Mori 1995). The topography of the site is nearly level. The planning area is a habitat mosaic of irrigated and non-irrigated pastures, cultivated fields, orchards, ruderal vegetation and areas supporting wetland vegetation. Approximately 30 % of the plant species identified within the planning area were found to be wetland associated types, and the rest consisting of forbs, grasses and ruderal species. Most of the wildlife species observed in the planning area are typically associated with grassland and/or disturbed areas.

IV. DESCRIPTION OF THE PROJECT

The proposed development plan for the Crossroads Community Specific Plan consists of residential housing units; two elementary schools; industrial/business parks; commercial/retail areas; public/quasi-public open space areas along the right-of-ways of Heich-Heichy and MID owned land; and roads and other infrastructures.

I. INTRODUCTION 1

III. ENVIRONMENTAL SETTING 1

IV. DESCRIPTION OF THE PROJECT 1

V. PURPOSE OF THE WETLAND ASSESSMENT 2

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VII. RESULTS AND DISCUSSIONS 2

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 B. Soil 4

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V. PURPOSE OF THE WETLAND ASSESSMENT

The purpose of this wetland assessment is to: (a) determine whether any areas exist within the planning area that may qualify as wetlands for the purpose of the Clean Water Act; and (b) identify the limits of any areas subject to the Corp's jurisdiction under the Act.

VI. METHODS

For the purpose of this study, wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (Corps 1987).

This wetland assessment was conducted using the Corps of Engineers Wetland Delineation Manual (Corps 1987). A field survey was conducted on April 21, 1995. Available USGS maps and aerial photographs were consulted for general background information. The limits of the potential jurisdictional areas observed at the site were determined by the extent of the hydrophytic vegetation identified growing within the project site, and by visual observation of prolonged inundation and soil saturation accompanying the hydrophytic vegetation.

Ten representative soil samples were obtained immediately below the surface (approximately 10-16 inches in depth). Soil survey maps and the hydric soils list for the Eastern Stanislaus Area (SCS' 1964) were used to identify soil associations and types. Soil colors using the standardized Munsell Soil Chart were identified for hue, value and chroma for both dry and wet conditions. Soil texture and consistency were identified by using the "feel" method. Soil pH was obtained by using the Hellige kit.

VII. RESULTS AND DISCUSSIONS

The discussion below is regarding portions of the planning area where typical wetland characteristics were identified using the three environmental parameters: hydrology, soil and vegetation. Positive wetland indicators including: (a) wetland hydrology - visual observation of saturated soil and inundation; (b) hydrophytic vegetation - prevalence of vegetation that typically occur in wetlands; and (c) hydric soil - observation of redoximorphic features (low chroma mottles and oxidation pigmentation) in soil have been documented for portions of the study area. At a minimum, approximately 1.7 acres of potential jurisdictional wetlands may be affected by the project.

Wetland Delineation data forms are presented in Appendix A. A copy of the Soil Survey Map is provided in Appendix B. Data point locations and potential jurisdictional areas are shown on Figures 3.1 and 3.2 of Appendix C.

1. Determination of Potential Jurisdictional Wetlands

Potential jurisdictional areas are presented on a 200-scale aerial photograph¹ (Figures 3.1 and 3.2). Because of difficulties in determining existing vegetation and landforms from the aerial photograph, only the approximate extent of the potential jurisdictional areas are mapped. Some inaccuracies may be present in the mapped jurisdictional areas, although reasonable effort has been made to depict these areas accurately. It should also be noted that there may be other jurisdictional areas within the planning area that were not included in this study.

A. Hydrology

The topography of the planning area is relatively level. The Stanislaus River is located approximately one mile to the north, while the Tuolumne River is located approximately six miles to the south of the planning area. Historically, the Stanislaus-Tuolumne Rivers waterbasin was characterized by shallow groundwater (Stanislaus and Tuolumne Rivers Waterbasin Tech. Memo, No. 2, Jan. 1995). Prior to European settlement, great floods occurred in the San Joaquin Valley during winter and spring, filling the groundwater basins, creating swamps in low lying areas and forming fresh alluvial deposits. In the post-settlement era, various dams, diversions, irrigation uses and drainage wells have reduced the flow of surface runoff into these rivers, and lowered ground water tables (EMC 1995).

Under current conditions, storm water collection facilities consisting of detention basins, pumps and pipe lines serve developed areas outside of the of the planning area. Within the planning area, surface runoff drains to nearby agricultural ditches and/or percolates to the groundwater. All surface runoff the general area ultimately flows into Stanislaus and Tuolumne Rivers, the San Joaquin River, through the Delta, and eventually out to the Pacific Ocean.

Evidence of abundant water supply from direct precipitation and surface runoff, and wetland hydrologic characteristics of inundation (and/or ponding) and soil saturation of sufficient duration were observed in portions of the planning area. The primary wetland hydrology indicator for this study was visual observation of ponding and soil saturation on April 21, 1995. In addition, soil saturation was observed in five soil pits. Specific sites within the planning area show evidence of: (a) hydric soils; and (b) prevalence of hydrophytic vegetation in which all the plant communities were dominated by OBL², and/or FACW species (refer to Vegetation section, below).

Based on the wetland hydrology field indicators, including inundation (and/or ponding) and soil saturation, and the presence of dominant hydrophytic vegetation, we have determined the presence of wetland hydrology meeting the technical criterion for wetland identification at

¹None that no topographic maps were provided for this study

²Wetland indicator status according to Reed (1988): OBL = obligate wetland; FACW = facultative wetland; FAC = facultative; UPL = obligate upland

specific locations on the project site. The approximate areal extent of inundation (and/or ponding) and soil saturation are shown on Figures 3.1 and 3.2.

B. Soil

The soils in the project consist of imperfectly-drained to well-drained soils, and are inclusive of the Grangeville, Hanford, Madera Oakdale and San Joaquin series. In general the soils characteristics included: loam to clay-loam structure; brown to reddish brown color; very hard when dry; slightly firm when wet; slightly sticky to sticky, and slightly plastic to plastic when wet; mildly alkaline to mildly acidic, and neutral; very few or no fine roots or pores present; mottles present in some samples; medium to moderately coarse texture. Iron-silica hardpan was observed underlying the soils at the sample sites at depths ranging from 9 to 36 inches. These soils are alluvium derived from mostly granitic and some metamorphic rocks (SCS 1964).

Ten representative soil samples were obtained from augered holes ranging from 0-16 inches in depth. Five of the soil samples exhibited aquic conditions since there is evidence of soil saturation and soil distribution, which resulted in the formation of redoximorphic features (high chroma mottles, oxidation pigmentation), (Lynn 1994). Five of the other soil samples did not exhibit these features.

Data point #'s 3, 4, 5, 7, and 9 are located within potential jurisdictional wetlands. These areas have a dominant vegetation cover of hydrophytes, have hydric soils and show evidence of wetland hydrology. Data points #'s 1, 2, 6, 8 and 10 are located in non-jurisdictional areas as shown in Appendix A.

Soil saturation was evident above the water table. The presence of hardpans (with low hydraulic conductivity) has caused free water to collect close to the soil surface by ponding, and in some cases created perched water within the upper soil profile. Based on this evidence, we have concluded that five of the ten soil samples obtained from the site have met the hydric soil criteria as determined by the Corp's 1987 Wetland Delineation Manual (Corps 1987).

C. Vegetation

Within the study sites FACW and OBL species including: *Juncus effusus pacificus* (OBL); *Juncus biflorus* (OBL); *Sporobolus indicus* (FACW+); *Jussiaea* sp. OBL, *Eleocharis* spp. (OBL), and *Carex* sp. (OBL) were dominant. In these areas, the herbaceous wetland and upland plant communities formed a gradual transition from each other, without any clear demarcations between the two. In portions of each site, at least 50 % of the dominant species have an indicator status of (OBL) and (FACW). This herbaceous wetland plant community type identified in the field is comprised of hydrophytic vegetation as described in the Corps manual (Corps 1987). Based on this evidence, we have concluded that the vegetation criterion for a jurisdictional wetland area has been met.

The surrounding upland vegetation consists of cultivated row crops, annual grasses, forbs and other ruderal species. Pastures are the predominant vegetation type. Dominant species consist

of ryegrass (*Lolium perenne*), barley (*Hordeum* spp.), knotgrass (*Paspalum dilatatum*), Bermuda grass (*Cynodon dactylon*), dropseed (*Sporobolus indicus*), white clover (*Trifolium repens*), and plantain (*Plantago* sp.). Cultivated fields supported corn (*Zea mays*), alfalfa (*Medicago sativa*), white clover, lady's thumb (*Polygonum persicaria*), knotgrass, and brittlegrass (*Setaria* spp.). Orchards of almond (*Prunus dulcis*) and walnut (*Juglans regia*) also occur within the planning area.

2. Project Impact

The proposed Specific Plan will impact, at a minimum, approximately 1.7 acres of potential jurisdictional wetland areas as shown on Figures 3.1 and 3.2. Mitigation for potentially adverse impacts to these potential jurisdictional areas will be required if the planned development is implemented. Mitigation measures may include habitat avoidance, replacement at a maximum 3:1 ratio, or acquisition of off-site areas of equal size and habitat values.

3. Regulatory Requirements

It is expected that the project may require: (a) a Department of the Army permit under Section 404 of the Clean Water Act; (b) an issuance of a State Water Quality Certification under Section 401 of the Clean Water Act; (c) U.S. Fish and Wildlife Section 7 consultation if there are any endangered species that could be potentially be affected by the project; (d) and permits/approval other from state, county and local agencies.

VIII. REFERENCES AND LITERATURE CITED

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- USDA. Soil Conservation Service. 1957. Soil Survey of Eastern Stanislaus Area, California. California Agricultural Experiment Station, Berkeley, California.

IX. PERSONAL COMMUNICATIONS

- McElhinny, Mike. District Manager, U.S. Natural Resources Conservation Service. Telephone conversations and correspondence, January through May 1995.
- Sheldon, Wayne, Senior Soil Scientist, U.S. Natural Resources Conservation Service, State Office. Telephone conversations and correspondence, May 1995.

APPENDIX A

**DATA FORMS
WETLAND DETERMINATION**

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Block Crossroad Community Specific Plan Date 4/21/52
 City of STANISLAUS County STANISLAUS
AMBESIAN ASSOCIATED State CA
 Do normal circumstances exist on the site? No
 Is the site significantly disturbed (typical situations)? Yes
 Is the area a potential Problem Area? Yes
 (If needed, explain here)

VEGETATION

Dominant Plant Species	Str.	%	Indicator	Dominant Plant Species	Str.	%	Indicator
1.	1m	Corx		7.	1m	Corx	
<u>Eleocharis sp.</u>	<u>11</u>	<u>30</u>	<u>ORL</u>				
<u>Juncus effusus</u>	<u>11</u>	<u>25</u>	<u>ORL</u>				
<u>Lythrum portula</u>	<u>30</u>	<u>ORL</u>					
<u>Polygonum punctatum</u>	<u>15</u>						

Percent of Dominant Species that are ORL, FACW or FAC (including FAC-): 85%

Remarks: Assume herbaceous unless otherwise indicated

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tide Gauge
 Aerial Photographs
 Other
 No Recorded Data Available

Field Observations:
 Depth of Surface Water: 2' (ft) no standing
 Depth to Free Water in Pit: 12' (ft) WF
 Depth to Saturated Soil: 1' (ft) WF

Wetland Hydrology Indicators
 Primary Indicators
 Submerged in Upper 12 inches
 Water Marks
 Soil Lines
 Sediment Deposits
 Drainage Patterns in Wetlands
 Secondary Indicators (2 of more required)
 Outlined Living Plant-Channel in Upper 12 inches
 Water-Related Leaves
 Local Soil Survey Data
 FAC-Neutral Test
 Other (Explain in Remarks)

SOILS

Soil Survey EASTERN STANISLAUS AREA
 Map Unit Name SAN JOAQUIN Drainage Class WD
 (Soils and Phases) ABRUPTIC, DURIERALS Field Observations
 (Yes/No) Yes Contour Mapped Type? (19) 11a
 Summary (Subgroup) ABRUPTIC, DURIERALS
 Soil Survey Hydro Inclusions (Soils and Phases): ---

Profile Description

Depth	Texture	Mollic Color (Munsell)	Mollic Color (Munsell)	Mollic Abundance, %	Taxonomy, Comments, Structure, etc.
<u>0-16</u>	<u>A</u>	<u>2.5 YR 4/4</u>	<u>10YR 7/4</u>	<u>Common, F</u>	<u>SL, M</u>

Hydro Soil Indicators
 Mollic
 Mollic Epipedon
 Mollic Oiler
 Aquic Mollic Profile
 Fluviotic Condition
 Gleyed or Low-Chroma Colors
 Concretion (in Brown Chroma, Top 2")
 High Organic Content in Surface Layer in Sandy Soils
 Organic Breaching in Sandy Soils
 Listed on Local Hydroic Soils List
 Listed on National Hydroic Soils List
 Other (Explain in Remarks)

Remarks: REDUCED MOISTURE FEATURES (HIGH CHROMA MOLIC, OILIC, CHROMATION, PIGMENTATION); REDUCED FROM MOISTURE WHEN WET, SOIL INDICATES WHEN DRY

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No
 Wetland Hydrology Present? Yes No
 Hydroic Soils Present? Yes No
 Is this Sampling Point Within a Wetland? Yes No

Remarks: Water point located in the middle of wetland, marshy area

Abundant (1987)

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Block Crossroad Community Specific Plan Date 4/21/52
 City of STANISLAUS County STANISLAUS
AMBESIAN ASSOCIATED State CA
 Do normal circumstances exist on the site? No
 Is the site significantly disturbed (typical situations)? Yes
 Is the area a potential Problem Area? Yes
 (If needed, explain here)

VEGETATION

Dominant Plant Species	Str.	%	Indicator	Dominant Plant Species	Str.	%	Indicator
1.	1m	Corx		7.	1m	Corx	
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<u>Lythrum portula</u>	<u>30</u>	<u>ORL</u>					
<u>Polygonum punctatum</u>	<u>15</u>						

Percent of Dominant Species that are ORL, FACW or FAC (including FAC-): 85%

Remarks: Wetland (1987) marshy area - middle of marshy area

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tide Gauge
 Aerial Photographs
 Other
 No Recorded Data Available

Field Observations:
 Depth of Surface Water: 1' (ft) no standing
 Depth to Free Water in Pit: 12' (ft) WF

Wetland Hydrology Indicators
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 Submerged in Upper 12 inches
 Water Marks
 Soil Lines
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Soil Survey EASTERN STANISLAUS AREA
 Map Unit Name SAN JOAQUIN Drainage Class WD
 (Soils and Phases) ABRUPTIC, DURIERALS Field Observations
 (Yes/No) Yes Contour Mapped Type? (19) 11a
 Summary (Subgroup) ABRUPTIC, DURIERALS
 Soil Survey Hydro Inclusions (Soils and Phases): ---

Profile Description

Depth	Texture	Mollic Color (Munsell)	Mollic Color (Munsell)	Mollic Abundance, %	Taxonomy, Comments, Structure, etc.
<u>0-16</u>	<u>A</u>	<u>2.5 YR 4/4</u>	<u>10YR 7/4</u>	<u>C, F</u>	<u>SL, M</u>

Hydro Soil Indicators
 Mollic
 Mollic Epipedon
 Mollic Oiler
 Aquic Mollic Profile
 Fluviotic Condition
 Gleyed or Low-Chroma Colors
 Concretion (in Brown Chroma, Top 2")
 High Organic Content in Surface Layer in Sandy Soils
 Organic Breaching in Sandy Soils
 Listed on Local Hydroic Soils List
 Listed on National Hydroic Soils List
 Other (Explain in Remarks)

Remarks: REDUCED MOISTURE FEATURES (HIGH CHROMA MOLIC, OILIC, CHROMATION, PIGMENTATION); REDUCED FROM MOISTURE WHEN WET, SOIL INDICATES WHEN DRY

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No
 Wetland Hydrology Present? Yes No
 Hydroic Soils Present? Yes No
 Is this Sampling Point Within a Wetland? Yes No

Remarks: Water point located in the middle of wetland, marshy area - middle of marshy area

Abundant (1987)

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Sheet: Conservation Community Specific Plan
 City of Riverside
 A. Assignment

Date: 4/21/52
 County: STANISLAUS
 State: CA

Drainage Class: WD
 Field Observations:
 Contour Mapped Type: (10)

Community ID: _____
 Tension ID: _____
 Plot ID: 2

VEGETATION

Dominant Plant Species	Str. Hgt.	% Cover	Indicator	Dominant Plant Species	Str. Hgt.	% Cover	Indicator
1. <i>Holcus lanatus</i>	11	40	FAC+				
2. <i>Spergularia villosa</i>	5	10	FAC+				
3. <i>Setaria pumila</i>	11	10	FAC+				
4. <i>Veronica hastata</i>	5	5	FAC+				
5. <i>Veronica myrtos</i>							

Percent of Dominant Species that are OBL, FAC+ or FAC (including FAC-): 70

Remarks: _____

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tide Gauge
 Aerial Photographs
 Other
 No Recorded Data Available

Field Observations:
 Depth of Surface Water: (in) X no standing
 Depth to Free Water in Pit: (in) X > 18"
 Depth to Saturated Soil: (in) X > 18"

Wetland Hydrology Indicators:
 Primary Indicators:
 Inundated
 Saturated in Upper 18 inches
 Water Marks
 Drift Lines
 Sediment Deposits
 Orange Patterns in Wetlands
 Secondary Indicators (if or more required):
 Oxidized Living Root-Channels in Upper 18 inches
 Water-Soaked Leaves
 Local Soil Survey Data
 FAC-Home of Test
 Other (Explain in Remarks)

Remarks: Soil somewhat moist

Data Point 6

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Sheet: Conservation Community Specific Plan
 City of Riverside
 A. Assignment

Date: 4/21/52
 County: STANISLAUS
 State: CA

Drainage Class: WD
 Field Observations:
 Contour Mapped Type: (10)

Community ID: _____
 Tension ID: _____
 Plot ID: 6

VEGETATION

Dominant Plant Species	Str. Hgt.	% Cover	Indicator	Dominant Plant Species	Str. Hgt.	% Cover	Indicator
1. <i>Holcus lanatus</i>	10		FAC-	1. <i>Plantago lanceolata</i>	5		FAC+
2. <i>Lolium perenne</i>	10		FAC	2. <i>Baccharis californica</i>	5		FAC+
3. <i>Bromus hordeaceus</i>	15			3. <i>Trifolium pratense</i>	5		FAC+
4. <i>Hordeum marinum</i>	20						
5. <i>Veronica myrtos</i>	10						
6. <i>Lolium complanatum</i>	16		FAC				

Percent of Dominant Species that are OBL, FAC+ or FAC (including FAC-): _____

Remarks: _____

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tide Gauge
 Aerial Photographs
 Other
 No Recorded Data Available

Field Observations:
 Depth of Surface Water: (in) X no standing
 Depth to Free Water in Pit: (in) X > 18"
 Depth to Saturated Soil: (in) X > 18"

Wetland Hydrology Indicators:
 Primary Indicators:
 Inundated
 Saturated in Upper 18 inches
 Water Marks
 Drift Lines
 Sediment Deposits
 Orange Patterns in Wetlands
 Secondary Indicators (if or more required):
 Oxidized Living Root-Channels in Upper 18 inches
 Water-Soaked Leaves
 Local Soil Survey Data
 FAC-Home of Test
 Other (Explain in Remarks)

Remarks: _____

SOILS

Soil Survey: EASTERN STANISLAUS
 Map Unit Name: SAN JUANILLIN
 (Soils and Phase): _____
 Drainage Class: WD
 Field Observations:
 Contour Mapped Type: (10)

Soil Survey Hydrolytic Indicators (Soils and Phase): _____

Profile Description	Depth (Soils)	Texture	Mollic Color (Mollic)	Mollic Color (Mollic)	Mollic Abundance (Soils)	Texture, Consistency, Structure (Soils)
	<u>0-16</u>	<u>A</u>	<u>7.5R 1/4</u>	<u>10B 1/2</u>	<u>E, F</u>	<u>SL, M</u>

Hydrolytic Soil Indicators:
 Mollic
 Mollic Epipedon
 Substratum
 Aquic Mollic Regime
 Podsoling Conditions
 Gleyed or Low-Chroma Colors
 Concretion (in Brown Chroma, Top 2")
 High Organic Content in Surface Layer in Sandy Soils
 Organic Breeding in Sandy Soils
 Listed on Local Hydrolytic Soils List
 Listed on National Hydrolytic Soils List
 Other (Explain in Remarks)

Remarks: pedonorphic features (high chroma in 2" soil, oxidation pigmentation) pedonorphic indicators (MOLIC 10B, AND 10B/205) with a 10B

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) (10) (Check)
 Wetland Hydrology Present? (Yes) (10) (Check)
 Hydrolytic Soils Present? (Yes) (10) (Check)
 Is This Sampling Point Within a Wetland? (Yes) (10) (Check)

Remarks: Soil somewhat moist (10B) in the middle of a prairie, (10B) in area

Observation

SOILS

Soil Survey: EASTERN STANISLAUS
 Map Unit Name: SAN JUANILLIN
 (Soils and Phase): _____
 Drainage Class: WD
 Field Observations:
 Contour Mapped Type: (10)

Soil Survey Hydrolytic Indicators (Soils and Phase): _____

Profile Description	Depth (Soils)	Texture	Mollic Color (Mollic)	Mollic Color (Mollic)	Mollic Abundance (Soils)	Texture, Consistency, Structure (Soils)
	<u>0-16</u>	<u>A</u>	<u>7.5R 3/4</u>	<u>-</u>	<u>-</u>	<u>SL, M</u>

Hydrolytic Soil Indicators:
 Mollic
 Mollic Epipedon
 Substratum
 Aquic Mollic Regime
 Podsoling Conditions
 Gleyed or Low-Chroma Colors
 Concretion (in Brown Chroma, Top 2")
 High Organic Content in Surface Layer in Sandy Soils
 Organic Breeding in Sandy Soils
 Listed on Local Hydrolytic Soils List
 Listed on National Hydrolytic Soils List
 Other (Explain in Remarks)

Remarks: _____

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) (10) (Check)
 Wetland Hydrology Present? (Yes) (10) (Check)
 Hydrolytic Soils Present? (Yes) (10) (Check)
 Is This Sampling Point Within a Wetland? (Yes) (10) (Check)

Remarks: _____

Observation

Data Point 7

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Date: Crossland Community Specific Plan Date: 4/2/95
 Agency: Stanislaus County County: STANISLAUS
 Map Unit Name: Greenfield Sandy State: CA
 Drainage Class: 1D
 Community ID: _____
 Town/Range: _____
 Section: 7
 Field Observations: _____
 Contour Mapped Type: (11)

Do normal circumstances exist on the site?
 Is the site significantly disturbed (Applicable Disturbance)?
 Is the site a potential Problem Area?
 (If needed, explain here)

No
 Yes
 Yes

VEGETATION

Dominant Plant Species	Str.	%	Code	Indicator	Dominant Plant Species	Str.	%	Code	Indicator
1. <u>Eleocharis acicularis</u>	<u>11</u>	<u>30</u>	<u>CB</u>		7. _____				
2. <u>Cyperus eragrostis</u>	<u>11</u>	<u>30</u>	<u>CB</u>		8. _____				
3. <u>Polygonum heterophyllum</u>	<u>11</u>	<u>40</u>	<u>CB</u>		9. _____				
4. <u>Typha repens</u>	<u>11</u>	<u>10</u>	<u>FAC</u>		10. _____				
5. _____					11. _____				
6. _____					12. _____				

Percent of Dominant Species that are OBL, FACM or FAC (including FAC): 90%

Remarks: _____

Assume herbaceous unless otherwise indicated

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tidal Gauge
 Aerial Photographs
 Other
 No Recorded Data Available

Field Observations:
 Depth of Surface Water: 4 (in) no standing
 Depth to First Water in Pit: 12 (in) 1F
 Depth to Saturated Soil: 30 (in) 1F

Wetland Hydrology Indicators
 Primary Indicators
 inundated
 saturated to upper 12 inches
 water marks
 soil lines
 sediment deposits
 drainage patterns in wetlands
 Secondary Indicators (2 of 3 are required)
 oxidized living root channels in upper 12 inches
 water-stained leaves
 local soil survey data
 FAC-Hist of Test
 Other (Explain in Remarks)

Remarks: potential problem in some areas

SOILS

Soil Survey: EASTERN STANISLAUS AREA
 Map Unit Name: Greenfield Sandy Drainage Class: 1D
 Taxonomy (Subgroup): HAPLOXERALS Field Observations: _____
 Contour Mapped Type: (11)

Soil Survey Hydro Indicators (Depth and Phase):

Depth	Texture	Mollic Color (Mollic Mollis)	Mollic Color (Mollic Mollis)	Mollic Abundance, %	Texture, Consistence, Structure, etc.
<u>C-16"</u>	<u>A</u>	<u>10YR 4/3</u> <u>10R 4/3</u>	<u>10YR 4/2</u>	<u>C, F</u>	<u>M</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Hydro Soil Indicators
 Mollic
 Mollic Epipedon
 Substr. Color
 Aquic Moisture Regime
 Podsoling Conditions
 Gleyed or Low-Chrome Colors
 Chromic (in Brown Chromer, Top 37)
 High Organic Content in Surface Layer in Sandy Soils
 Organic Burrowing in Sandy Soils
 Listed on Local Hydroic Soils List
 Listed on National Hydroic Soils List
 Other (Explain in Remarks)

Remarks: PODOLING, MODERATE FERTILITY, HIGH INDIAN MOISTURE, DRAINAGE DISCONTINUITY, REDUCED WATER TABLE, HIGH pH, AND CRIBBLES WHEN DRY.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No (Date)
 Wetland Hydrology Present? Yes No (Date)
 Hydroic Soils Present? Yes No (Date)

Is this Sampling Point Within a Wetland? Yes No

Remarks: Date point located in the middle of intertidal field - marshy area.

Arise/Arise

Data Point 8

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Date: Crossland Community Specific Plan Date: 4/2/95
 Agency: Stanislaus County County: STANISLAUS
 Map Unit Name: Greenfield Sandy State: CA
 Drainage Class: 1D
 Community ID: _____
 Town/Range: _____
 Section: 8
 Field Observations: _____
 Contour Mapped Type: (11)

Do normal circumstances exist on the site?
 Is the site significantly disturbed (Applicable Disturbance)?
 Is the site a potential Problem Area?
 (If needed, explain here)

No
 Yes
 Yes

VEGETATION

Dominant Plant Species	Str.	%	Code	Indicator	Dominant Plant Species	Str.	%	Code	Indicator
1. <u>Typha repens</u>	<u>11</u>	<u>60</u>	<u>FAC</u>		7. _____				
2. <u>Eleocharis acicularis</u>	<u>11</u>	<u>10</u>	<u>FAC</u>		8. _____				
3. <u>Resistant vegetation</u>	<u>11</u>	<u>20</u>	<u>FAC</u>		9. _____				
4. <u>Eleocharis acicularis</u>	<u>11</u>	<u>10</u>	<u>CB</u>		10. _____				
5. _____					11. _____				
6. _____					12. _____				

Percent of Dominant Species that are OBL, FACM or FAC (including FAC): 10%

Remarks: weedy, & low-lying area

Assume herbaceous unless otherwise indicated

HYDROLOGY

Recorded Data (Describe in Remarks):
 Stream, Lake, or Tidal Gauge
 Aerial Photographs
 Other
 No Recorded Data Available

Field Observations:
 Depth of Surface Water: _____ (in) no standing
 Depth to First Water in Pit: _____ (in) 1F
 Depth to Saturated Soil: _____ (in) 1F

Wetland Hydrology Indicators
 Primary Indicators
 inundated
 saturated to upper 12 inches
 water marks
 soil lines
 sediment deposits
 drainage patterns in wetlands
 Secondary Indicators (2 of 3 are required)
 oxidized living root channels in upper 12 inches
 water-stained leaves
 local soil survey data
 FAC-Hist of Test
 Other (Explain in Remarks)

SOILS

Soil Survey: EASTERN STANISLAUS AREA
 Map Unit Name: Greenfield Sandy Drainage Class: 1D
 Taxonomy (Subgroup): AROXERALS Field Observations: _____
 Contour Mapped Type: (11)

Soil Survey Hydro Indicators (Depth and Phase):

Depth	Texture	Mollic Color (Mollic Mollis)	Mollic Color (Mollic Mollis)	Mollic Abundance, %	Texture, Consistence, Structure, etc.
<u>C-16"</u>	<u>A</u>	<u>10YR 4/2</u>	_____	_____	<u>M</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Hydro Soil Indicators
 Mollic
 Mollic Epipedon
 Substr. Color
 Aquic Moisture Regime
 Podsoling Conditions
 Gleyed or Low-Chrome Colors
 Chromic (in Brown Chromer, Top 37)
 High Organic Content in Surface Layer in Sandy Soils
 Organic Burrowing in Sandy Soils
 Listed on Local Hydroic Soils List
 Listed on National Hydroic Soils List
 Other (Explain in Remarks)

Remarks: _____

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No (Date)
 Wetland Hydrology Present? Yes No (Date)
 Hydroic Soils Present? Yes No (Date)

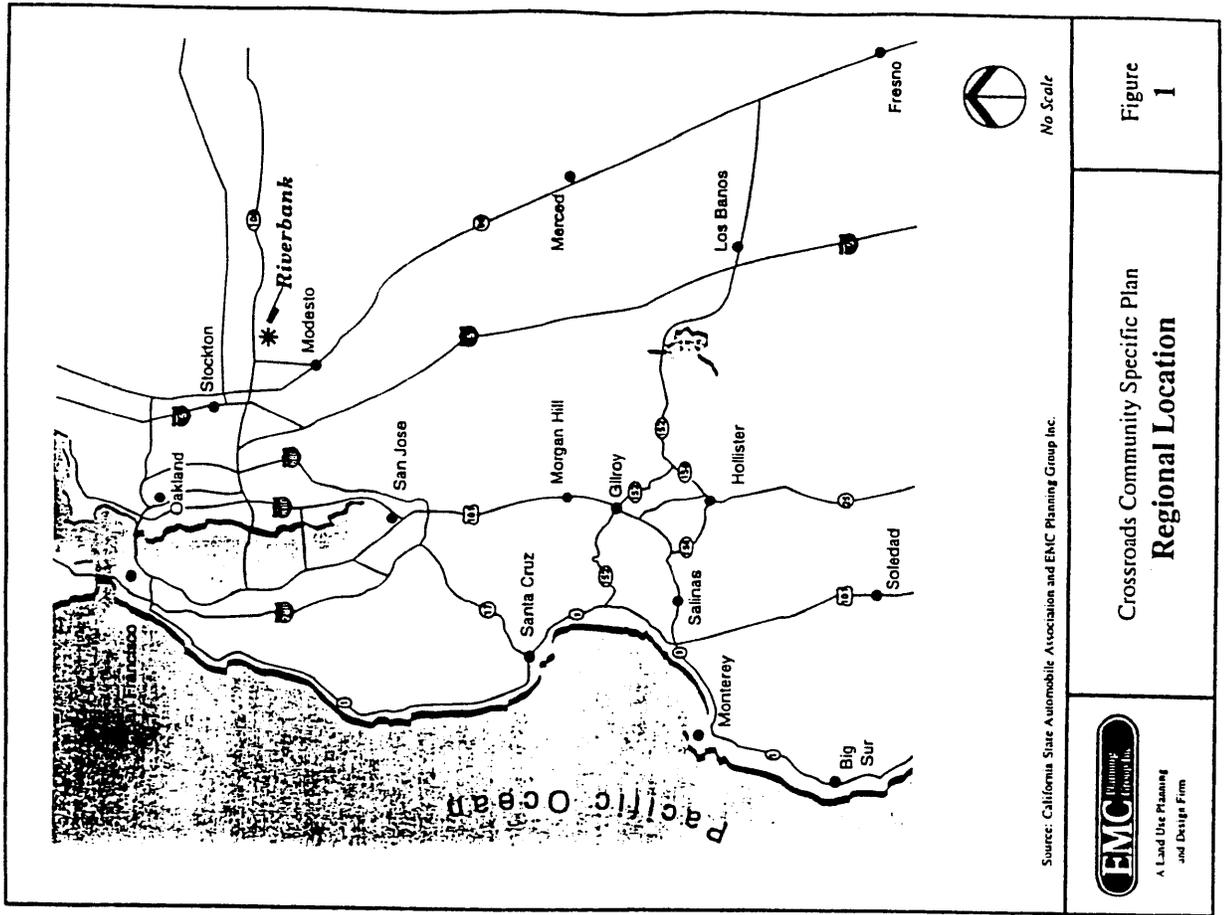
Is this Sampling Point Within a Wetland? Yes No

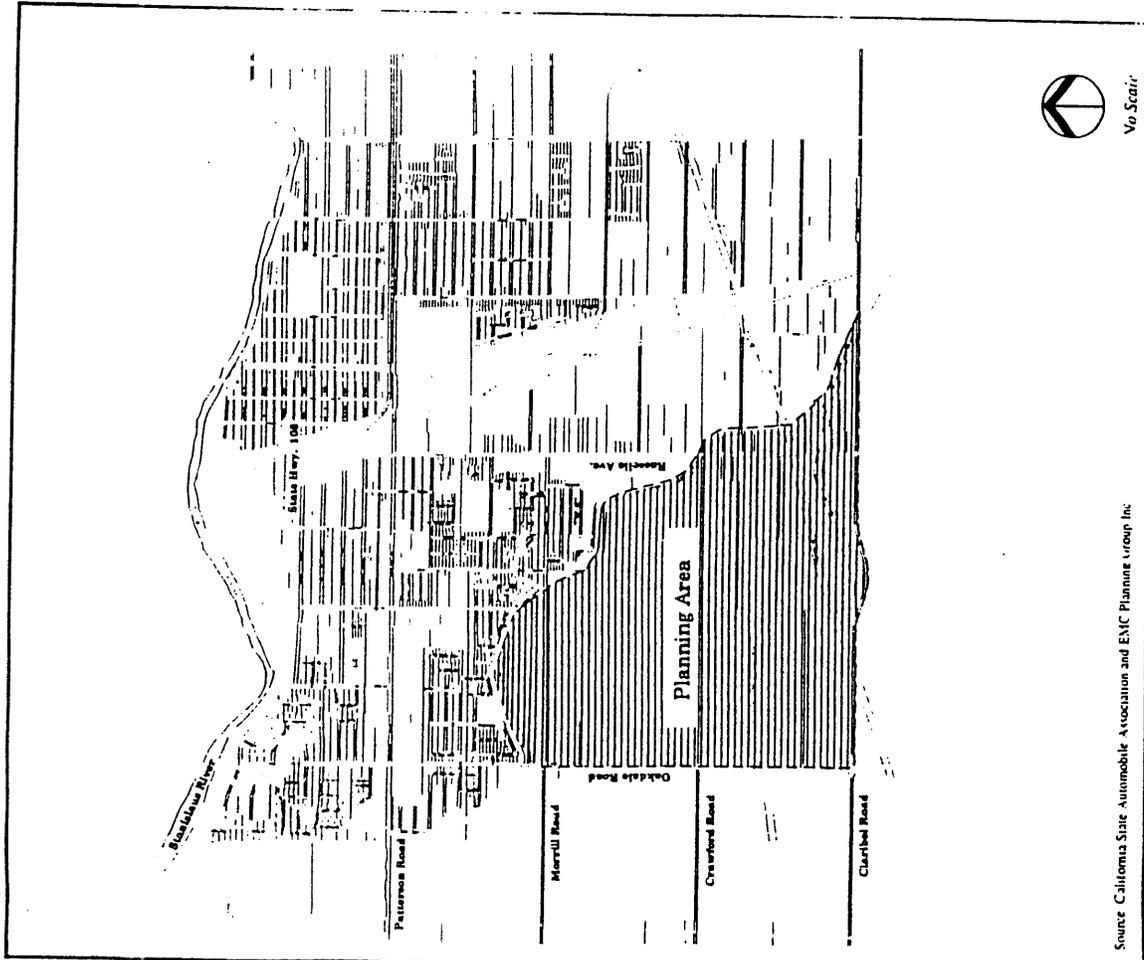
Remarks: not located on the edge - if situated

APPENDIX B **SOIL SURVEY MAPS**

APPENDIX C

FIGURES





Source: California State Automobile Association and EMC Planning Group, Inc.



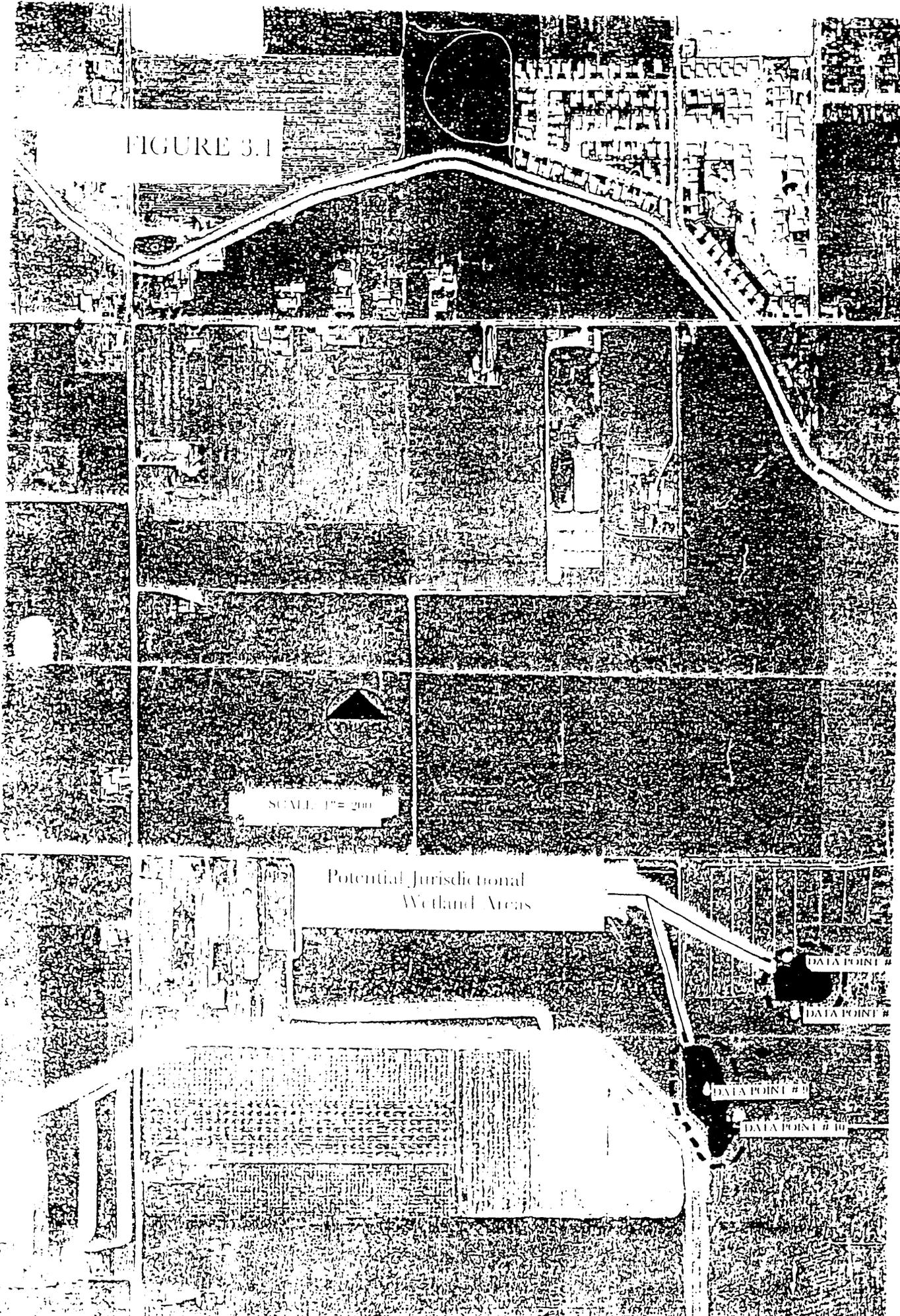
A Land Use Planning
and Design Firm

Crossroads Community Specific Plan
Planning Area Vicinity



Vo Scair

FIGURE 3.1



SCALE: 1" = 200'

Potential Jurisdictional
Wetland Areas

DATA POINT # 1

DATA POINT # 2

DATA POINT # 3

DATA POINT # 4

FIGURE 3.2

SCALE: 1" = 200'

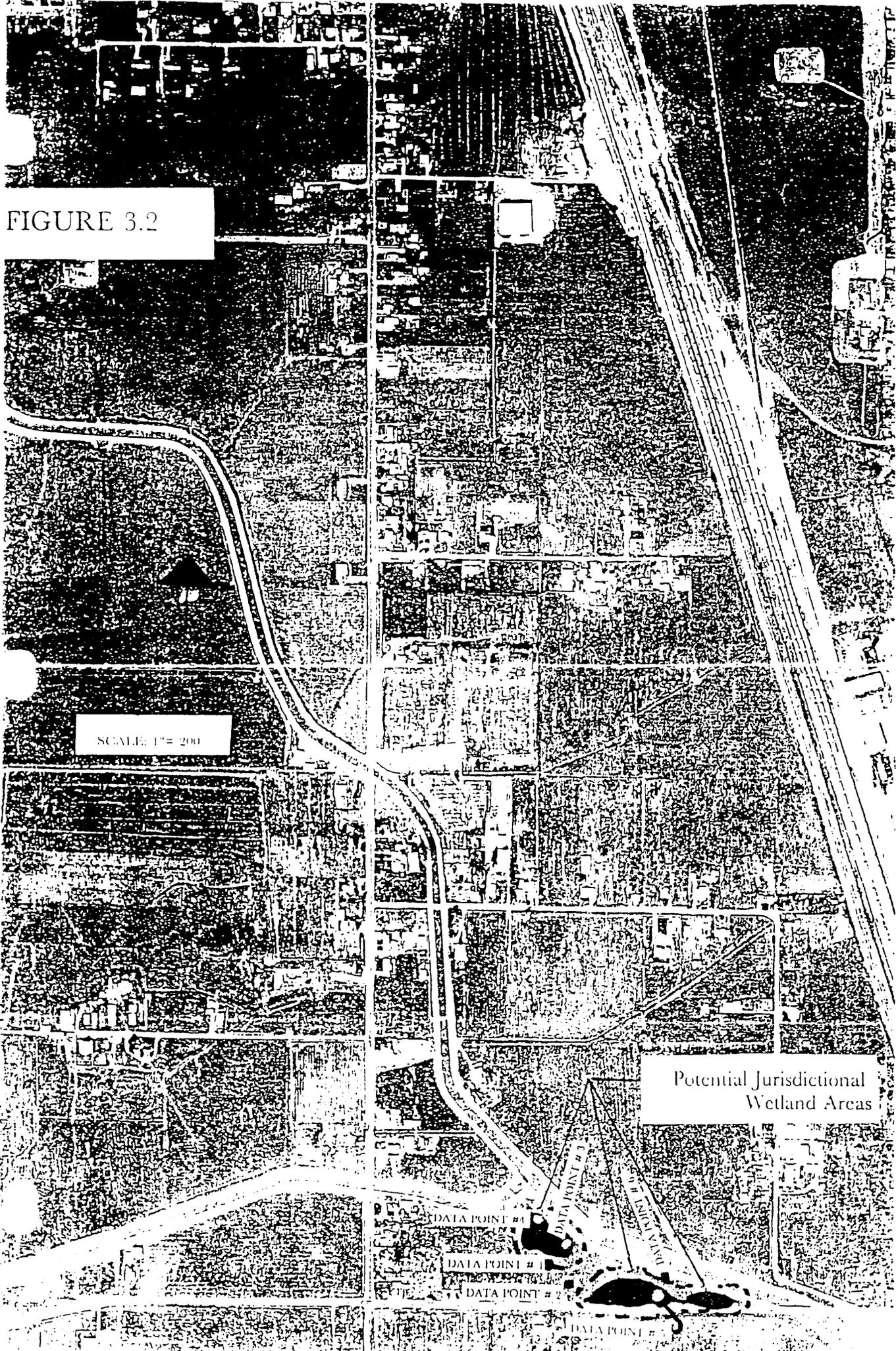
Potential Jurisdictional
Wetland Areas

DATA POINT #1

DATA POINT #1

DATA POINT #2

DATA POINT #3



DEPARTMENT OF FISH AND GAME

REGION 4

1234 E. Shaw Avenue
Fresno, CA 93710
(209) 445-6152



May 16, 1995

Mr. Bryan Mori
Biological Consulting Services
1016 Brevington Avenue
Watsonville, California 95076

Dear Mr. Mori:

Swainson's Hawk Issues
Riverbank Village Specific Plan

Thank you for the opportunity to provide some early input to the Riverbank Village Specific Plan environmental review process. The project site is located immediately south of Riverbank in Stanislaus County. The project proposes to convert about 600 acres of mostly pasture, hay and alfalfa to residential use.

All open habitats, such as pasture, hay and alfalfa on the project site are considered suitable foraging habitat for the state-listed (threatened) Swainson's Hawk. Based on information you provided, the nearest potential Swainson's Hawk nest site is about 7 miles northwest, near the intersection of McHenry Road and River Road. The project site is thus well within the documented 18-mile foraging flight radius from the potential nest area, and within the 10-mile radius recommended for evaluation of impacts to Swainson's Hawk nest territories.

If there are no Swainson's Hawk nests on the project site, or within 0.25 miles (close enough to be disturbed by site development), no special authorization to "take" the state-listed Swainson's Hawk would be required. However, loss of almost 500-600 acres of suitable foraging habitat within the foraging radius of a potential nest could be considered a significant impact under CEQA. We would recommend that such an impact be mitigated.

Our Department's Sacramento Wildlife Management and Environmental Services Divisions have prepared a draft staff report on Swainson's Hawk. They recommend mitigating the loss of foraging habitat located 5-10 miles from a nest site by securing the maintenance of an area of suitable foraging habitat equivalent to half the area lost. In this case, assuming that about 500 acres of suitable foraging habitat would be lost, some means to preserve about 250 acres of existing farmland used for hay, grains, pasture, low-growing field or row crops, or riparian habitat, would be appropriate mitigation. The mitigation site should be within 10 miles of a known or potential Swainson's Hawk nest. We can provide additional guidance on site selection and other aspects of mitigation at a later stage. This mitigation measure could also help to mitigate the long-term loss of agricultural land, which is also often considered a significant impact.

Please contact Dr. Jeffrey Single, Environmental Specialist, or Mr. Dale Mitchell, Environmental Services Supervisor, if you wish to discuss this issue further.

Sincerely,

Dale Mitchell
for Christopher J. Palin
Acting Regional Manager

Appendix C

Traffic Study

TRAFFIC IMPACT ANALYSIS FOR
 FOR THE
 CROSSROADS COMMUNITY SPECIFIC PLAN
 Riverbank, California

Prepared For:
 EMC Planning Group Inc.
 P.O. Box 414
 Monterey, CA 93942

Prepared By:
 kdANDERSON Transportation Engineers
 417 Oak Street
 Roseville, CA 95678
 (916) 786-5529

November 29, 1994
 Job No. 2925-01

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KDA

TRAFFIC IMPACT ANALYSIS FOR
FOR THE
CROSSROADS COMMUNITY SPECIFIC PLAN

Intersection and street improvements required to provide satisfactory traffic operating conditions have been identified considering the following traffic scenarios:

1. Existing traffic conditions;
2. Existing traffic conditions plus development of the proposed Crossroads Community Specific Plan land uses;
3. Future traffic conditions representative of a year 2015 planning horizon; and
4. Year 2015 traffic conditions with development of the project site.

INTRODUCTION

This report documents kANDERSON Transportation Engineers' assessment of the potential traffic impacts associated with development of the Crossroads Community Specific Plan. The site is located on 678 acres south of the Riverbank City limits lying east of Oakdale Road, north of Claribel Road and primarily south of Morrill Road and west of Roselle Avenue in Stanislaus County California. The analysis is intended to update the site traffic study prepared by TJKM in 1991 and to quantify the traffic impacts of the project and address circulation and roadway requirements in the vicinity of the project site. The analysis addresses existing traffic conditions in the area as well as cumulative traffic and circulation conditions representative of a year 2015 planning horizon. A year 2005 planning horizon has also been used to evaluate impacts to the state highway system consistent with Congestion Management Program (CMP) requirements.

Toward this end, existing traffic conditions have been evaluated through observation of current weekday AM and PM peak hour and through review of traffic count information available for the area. Current intersection capacities and operating Levels of Service have been calculated. Probable project trip generation has been estimated by applying appropriate trip generation rates to the project land use inventory. Project trips were assigned to the study area street system based on recognizable least time travel paths in the immediate vicinity of the site and using the countywide traffic model developed for the Stanislaus Area Association of Governments (SAAG). Finally, Levels of Service were recalculated to determine the anticipated impacts of the proposed development on traffic conditions in the area.

EXISTING SETTING

Project Description

The project site is located east of Oakdale Road, north of Claribel Road and primarily south of Morrill Road and west of Roselle Avenue in Stanislaus County, California.

The project is intended to consist of both residential and commercial uses on the 687 acre site. A total of 2,036 residences are proposed with 1,810 single family, 136 multi-family and 90 senior dwelling units. Of the commercial uses, the project proposes 20 acres of highway commercial, a 130,000 square foot Village Center and a 1,167,408 square foot Business Park. In addition, the project is to contain one elementary schools and several parks.

The project proposes six major roadway accesses onto the adjacent arterial street system. Of these six proposed accesses, two are proposed via the extension of Crawford Road between Oakdale Road and Roselle Avenue, two are onto Oakdale Road to the west and two are onto Morrill Road to the north. In addition to these planned roadways, the highway commercial portion of the proposed project is to take access directly onto Roselle Avenue north of Claribel Road.

Existing Roadways

Existing traffic conditions in the study area are influenced by commuter travel to/from Highway 99 and Route 108 and by agricultural activity in this area of the County. To adequately assess existing traffic conditions, a program of field investigation, traffic counts and traffic records research was undertaken. The text which follows describes streets and intersections serving the study area.

The following streets are located within the study area street system and are described in detail:

- o State Route 108/Patterson Road
- o Morrill Road
- o Crawford Road
- o Claribel Road
- o Sylvan Avenue
- o Coffee Road
- o Oakdale Road
- o Roselle Road
- o Terminal Avenue/Sante Fe Avenue
- o Claus Road

State Route 108/Patterson Road. State Route 108, is a state highway connecting the City of Modesto to the Towns of Oakdale and Sonora and points east. State Route 108 varies from 2 to 4 lanes in width. Through the City of Riverbank, State Route 108 is a two-lane, east-west street with separate right-turn and left-turn lanes at key intersections. Between McHenry Avenue and east of Roselle Avenue, Paterson Road and State Route 108 share the same right-of-way. At this point, State Route 108 turns left and Paterson Road continues easterly to County Road J14/Albers Road. Posted speed limits on both roadways range between 30 and 45 miles per hour. Paterson Road is designated as a truck route along its entire length within the City of Riverbank as is Route 108 west of Mesa Drive.

State Route 108 carries approximately 1,000 to 1,600 vehicles per hour during the a.m. peak hour and between 1,000 and 1,450 vehicles per hour during the p.m. peak hour. Paterson Road east of Roselle Avenue carries 650 vehicles during the a.m. peak hour and 900 vehicles per hour during the p.m. peak hour. This volume drops to 650 vehicles during the a.m. peak hour east of Claus Road and 350 vehicles per hour during the p.m. peak hour.

Morrill Road and Crawford Road. Morrill Road and Crawford Road are two-lane, east-west roadways serving the ranchettes and rural residences that front on them. Speed limits are 25 miles per hour on Crawford Road and 25 to 35 miles per hour on Morrill Road. Both of these residential roads carry less than 50 vehicles per hour during the a.m. peak hour and less than 50 vehicles per hour during the p.m. peak hour.

Morrill Road provides access to Coffee Road, Oakdale Road and Roselle Avenue. Crawford Road currently provides access between Coffee Road and Oakdale Road. However, it will eventually be extended east to connect with Roselle Avenue when the project develops.

Claribel Road. Claribel Road is a rural, high-speed, two-lane arterial that provides access to State Route 108 and State Route 219 in the west and County Road J14/Albers Road, in the west. East of McHenry Avenue, Claribel Road continues as State Route 219 and is renamed Klernan Avenue. Posted speed limits on Claribel Road are 55 miles per hour. Currently, Claribel Road carries 500 to 650 vehicles per hour during the a.m. peak hour and 700 to 900 vehicles per hour during the p.m. peak hour.

Claribel Road is identified as a four lane expressway in the future with improvements outlined in the Inter-City fee program.

Sylvan Avenue. Sylvan Avenue is an east-west arterial that is two lanes from its origin at Claus Road in the east to Oakdale Road in the west. East of Oakdale Road, Sylvan Avenue widens to four lanes with a center two-way left turn lane. West of McHenry Avenue/Route 108, Sylvan Avenue is renamed Standiford Avenue as it extends to State Route 99 in the west. Currently, Sylvan Avenue carries 450 to 1,950 vehicles per hour during the a.m. peak hour and 500 to 2,100 vehicles per hour during the p.m. peak hour.

Coffee Road. Coffee Road is a north-south arterial extending between Paterson Road in the north and Scenic Drive in Modesto to the south. In the vicinity of the project site, Coffee Road is two lanes, but widens to four lanes in the vicinity of Sylvan Road.

Peak hour traffic volumes on Coffee Road vary widely. During the a.m. peak hour traffic on Coffee Road ranges from 250 to 1,660 vehicles per hour while the p.m. peak hour traffic volumes range from 250 to 1,450 vehicles per hour.

Oakdale Road. Oakdale Road is a two-lane, north-south arterial with limited shoulders, curbs and sidewalks. There are no posted speed limits. Oakdale Road is designated as a truck route between Paterson Road to the north and the MID Canal to the south.

Oakdale Road will also be a primary access point for the Crossroads Community Specific Plan. Currently, Oakdale Road carries approximately 500 to 700 vehicles per a.m. peak hour and 550 to 800 vehicles per p.m. peak hour.

Roselle Avenue. Roselle Avenue is a two-lane, north-south roadway that provides access to the Amtrak station and fronting residences. There are limited curbs and sidewalks and posted speed limits are 40 miles per hour. Roselle Avenue will also serve as a primary access to the Crossroads Community Specific Plan. Roselle is designated as a truck route between the MID Canal to the south and its terminus at Sierra Avenue to the north.

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It currently carries 200 to 300 vehicles per hour north of Claribel Road and 350 vehicles per hour south of Claribel Road during the a.m. peak hour. During the p.m. peak hour, Roselle Avenue carries 250 to 400 vehicles per hour north of Claribel Road and 400 vehicles per hour south of Claribel Road.

Sante Fe Avenue/Terminal Way. Sante Fe Avenue is a two lane high speed collector that parallels the northeast side of the Southern Pacific Transportation Company railroad tracks. North of Claus Road, Sante Fe Road is named Terminal Way. Terminal Way is designated as a truck route between Claribel Road in the south to Townsend Avenue in the north.

In the vicinity of the study intersections, Sante Fe Avenue/Terminal Way currently carries 100 and 150 vehicles per hour during the morning peak hour and between 50 to 200 vehicles per hour during the peak hour.

Claus Road. Claus Road is a wide, two-lane, north-south arterial intersecting State Route 108 and providing access to the City of Modesto. Posted speeds are 35 to 45 miles per hour and turning lanes are provided at critical intersections. Claus Road is designated as a truck route south of Route 108 along its entire length.

Claus Road carries 700 vehicles per hour south of State Route 108, 900 vehicles per hour north of Claribel Road, and 1,050 vehicles per hour south of Claribel Road during the a.m. peak hour. During the p.m. peak hour traffic two-way volumes on Claus Road range from 800 vehicles per hour north of Claribel Road and 700 vehicles per hour south of Claribel Road.

Existing Intersections

Eighteen (18) intersections in the vicinity of the site have been analyzed in this report. These intersection locations, as identified below, have been evaluated in this analysis to quantify traffic impacts resulting from development of the site under the proposed General Plan and Zoning designations. Identified study locations include key intersections identified by Stanislaus County Public Works and Caltrans in response to the Notice of Preparation. Four of the eighteen study intersections are under Caltrans jurisdiction.

The eighteen intersections to be studied are listed below. The Roselle Avenue/Crawford Road Intersection currently does not exist but will be constructed as part of the project when Crawford Road is extended from Oakdale Road to Roselle Avenue. However, it is possible that the Crawford Road/Roselle Avenue Intersection could be constructed without development of the project and therefore, it is included on the illustrations that follow.

1. Claus Road/Route 108
2. Claus Road/Paterson Road
3. Claus Road/Claribel Road
4. Claus Road/Santa Fe Avenue
5. Roselle Avenue/Patterson Road
6. Roselle Avenue/Morrill Road
7. Roselle Avenue/Crawford Road (future)
8. Roselle Avenue/Claribel Road
9. Roselle Avenue/Sylvan Avenue
10. Oakdale Road/Patterson Road
11. Oakdale Road/Morrill Road
12. Oakdale Road/Crawford Road
13. Oakdale Road/Claribel Road
14. Oakdale Road/Sylvan Avenue
15. Coffee Road/Patterson Road
16. Coffee Road/Claribel Road
17. Coffee Road/Sylvan Avenue
18. McHenry Avenue/Claribel Road

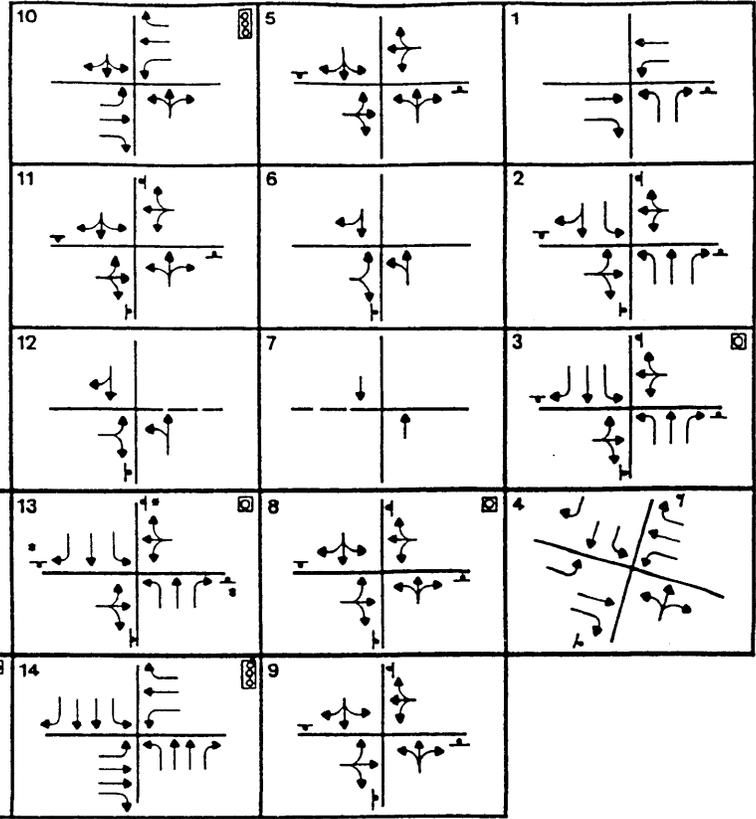
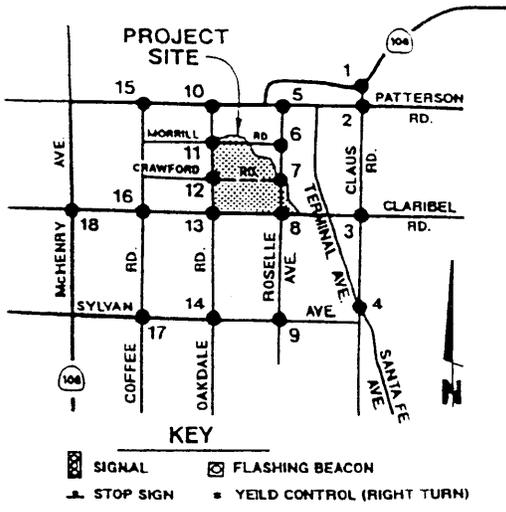
Current intersection geometrics for each of the study intersections are displayed in Figure 1. In addition, the existing controls are also presented.

Existing Traffic Volumes

Current intersection traffic counts were taken from the 1991 TJKM Report. New weekday a.m. and p.m. peak hour counts were conducted at four of the study intersections by kANDERSON technicians during November 1994. These intersections include McHenry Avenue/Claribel Road, Oakdale Road/Sylvan Avenue, Roselle Avenue/Sylvan Avenue and Claus Road/Sante Fe Avenue. Intersection counts were conducted from 7:00-9:00 am and 4:00-6:00 pm to isolate the peak traffic intervals and one hour periods. Peak hour intersection counts at the remaining intersections were obtained from other reports done in the area. Figure 2 displays current peak hour turning movements during both the morning and evening peak hours at each of the study intersections.

Levels of Service - Methodology

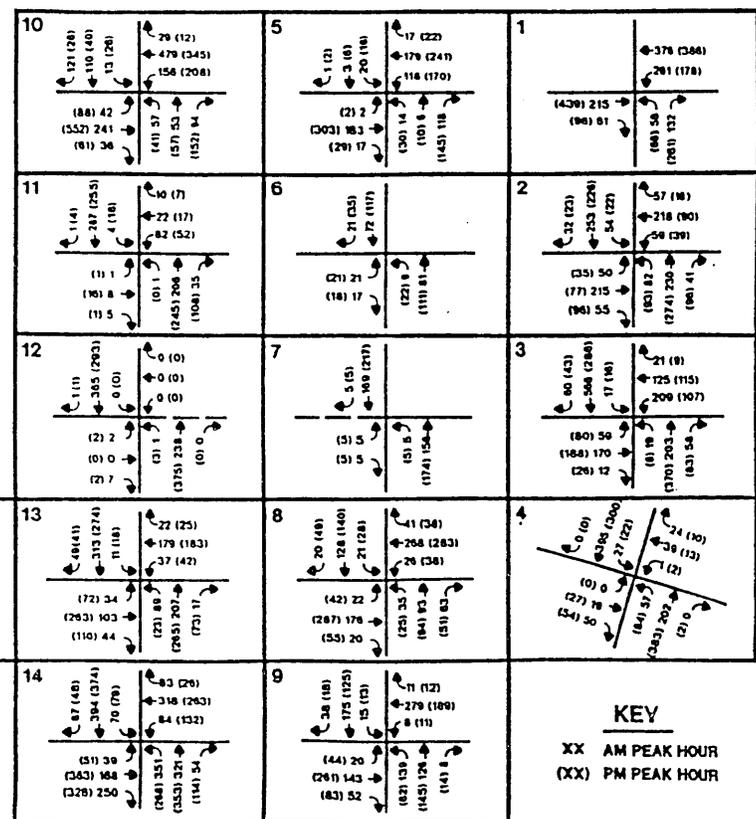
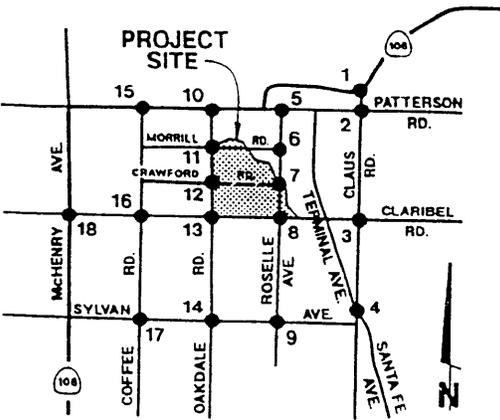
To assess the quality of existing traffic conditions, Levels of Service were calculated at study area intersections. "Level of Service" (LOS) is a qualitative measure of traffic operating conditions whereby a letter grade "A" through "F", corresponding to progressively worsening operating conditions, is assigned to an intersection or roadway segment.



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EXISTING INTERSECTION GEOMETRICS

figure 1



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TABLE 1
LEVEL OF SERVICE DEFINITIONS

LEVEL OF SERVICE	SIGNALIZED INTERSECTION	UNSIGNALIZED INTERSECTION	ROADWAY (DAILY)
"A"	Uncongested operations, all queues clear in a single signal cycle. $V/C \leq 0.60$	Little or no delay. Reserve Capacity > 400	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. $V/C = 0.61-0.70$	Short traffic delays. Reserve Capacity 300 - 399	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. $V/C = 0.71-0.80$	Average traffic delays. Reserve Capacity 200 - 299	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. $V/C = 0.81-0.90$	Long traffic delays. Reserve Capacity 100 - 199	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). $V/C = 0.91-1.00$	Very long traffic delays. Failure, extreme congestion. Reserve Capacity 0 - 99	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. $V/C > 1.00$	Intersection blocked by external causes.	Forced flow, breakdown.

Sources: 1985 Highway Capacity Manual, Transportation Research Board (TRB) Special Report 209; V/C (volume to capacity) ratios ranges from TRB Circular 212.

Signalized Intersections. Currently, four of the study intersections are signalized. Procedures used for calculating Levels of Service at signalized intersections utilize a "critical movement" analysis as presented in Transportation Research Board "Circular 212". Table 1 presents volume to capacity ratio characteristics associated with each Level of Service grade.

Unsignalized Intersections. Currently, six of the study intersections are controlled by stop signs on the minor approach or approaches. For unsignalized intersections, gap acceptance and reserve capacity are used for Level of Service analysis. Procedures used for calculating unsignalized intersection Level of Service are as presented in the "1985 Highway Capacity Manual" and are outlined in Table 1. Levels of Service at the unsignalized intersections, which are controlled by side street stop signs, are indicative of the magnitude of the delay incurred by motorists which must yield the right of way at an intersection.

Because these calculations ignore the condition of through traffic flow (which is assumed to flow freely) a supplemental traffic signal warrant analysis is performed to confirm the significance of calculated delays. While the unsignalized Level of Service may indicate very long delays (i.e., LOS "E") traffic conditions are generally not assumed to be unacceptable unless signal warrants are satisfied. Meeting signal warrants signifies that intersection improvements may be warranted, but does not mean that installation of a signal is the only way to mitigate conditions. It is often possible to improve operations with additional lanes or improved geometrics to reduce delays. The signal warrant criteria employed for this study is as presented in the Manual of Uniform Traffic Control Devices (MUTCD), published by the Federal Highway Commission.

All-Way Stop Intersections. Seven of the study intersections are all-way stop controlled. Current procedures for calculating the Levels of Service at all-way stop controlled intersections are based on such factors as the number of approach lanes, the volume of traffic and a peak hour factor. A delay, volume to capacity ratio and Level of Service are calculated for each individual approach movement. Combining and weighting the overall approach delays yields an overall intersection delay. Table 2 presents the average delay associated with each Level of Service.

TABLE 2
FOUR-WAY STOP LEVEL OF SERVICE CRITERIA

LEVEL OF SERVICE	DELAY (SEC/VEH)
A	< 5
B	5 - 10
C	10 - 20
D	20 - 30
E	30 - 40
F	> 40

Existing Levels of Service

Table 3 presents a summary of existing traffic operations and Levels of Service at study area intersections. Level of Service calculations are provided under a separate cover in the Appendix.

Stanislaus County utilizes LOS "D" to define acceptable intersection and roadway operations. Beyond this threshold (i.e., LOS E and F) traffic operations are considered deficient and appropriate mitigations should be identified.

The City of Riverbank identifies LOS "C" in the City of Riverbank General Plan as the acceptable threshold of arterials operations.

Other agencies with specific jurisdiction for particular facilities have also established Level of Service goals or thresholds as well. Caltrans, through their System Management Plan has categorized state highways and established Level of Service goals. On Major Routes, such as SR 99, LOS "C" is the standard. This is also the standard for "Routes of Regional Importance" such as SR 108. On "Routes of Secondary Significance", such as SR 219, LOS "D" is the identified "Concept" Level of Service.

The Stanislaus County 1992-1993 Congestion Management Program (CMP) also prescribes Level of Service standards for the CMP roadway system. The adopted CMP standard within Urban Spheres and Community Areas, such as Salida, is LOS "D".

Similarly, the Stanislaus Area Association of Governments 1993 Regional Transportation Plan defines a "capacity problem" as Level of Service "D" or worse.

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TABLE 3
EXISTING INTERSECTION LEVELS OF SERVICE

INTERSECTION	CONTROL	EXISTING CONDITIONS			
		AM PEAK HOUR Delay or V/C	LOS	PM PEAK HOUR Delay or V/C	LOS
1. Claus Rd/Route 108 WB left (major) NB left (minor) NB right (minor)	1-way stop	525 61 589	A E E	385 20 217	B E C
2. Claus/Patterson	4-way stop	10.7	C	6.1	B
3. Claus/Claribel	4-way stop	19.0	C	10.8	C
4. Claus/Santa Fe NB left (major) EB left (major) EB left (minor) WB left (minor)	2-way stop	657 590 503 203	A A C C	716 708 189 151	A A D D
5. Roselle/Patterson EB left (major) WB left (major) NB left (minor) SB left (minor)	2-way stop	946 800 351 239	A A B C	875 597 175 112	A A D D
6. Roselle Ave/Morrill NB left (major) EB left (minor) EB right (minor)	1-way stop	987 662 938	A A A	915 488 805	A A A
7. Roselle Ave/Crawford NB left (major) EB left (minor) EB right (minor)	Future intersection	NA NA NA	NA NA NA	NA NA NA	NA NA NA
8. Roselle Ave/Claribel	4-way stop	5.1	A	7.0	B
9. Roselle Ave/Sylvan	4-way stop signal	7.8 0.42	C A	6.8 0.56	B A
10. Oakdale/Patterson	4-way stop	4.5	A	5.0	B
11. Oakdale/Morrill	1-way stop	769 350 655	A B A	841 309 732	A B A
12. Oakdale/Crawford NB left (major) EB left (minor) EB right (minor)	4-way stop	5.1	B	6.8	B
13. Oakdale/Claribel	4-way stop signal	0.54	A	0.55	A
14. Oakdale/Sylvan	1-way stop	679 136 654	A D A	477 120 357	A B B
15. Coffee/Patterson WB left (major) NB left (minor) NB left (minor)	4-way stop signal	6.5 0.71	B C	12.5 0.65	C B
16. Coffee/Claribel	4-way stop signal	0.55	A	0.68	B
17. Coffee/Sylvan	4-way stop signal	0.55	A	0.68	B
18. McHenry/Claribel	4-way stop signal	0.55	A	0.68	B

Delay's in seconds
RC = Reserve Capacity

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Signalized Intersection. All of the signalized study intersections operate acceptably at LOS "C" or better during both the morning and evening peak hours.

Unsignalized Intersections. Currently, the Oakdale Road/Crawford Road intersection and the Roselle Avenue/Morrill Road intersections operate satisfactorily at LOS "B" or better during both the morning and evening peak hours. The Claus Road/Sante Fe Avenue, Roselle Avenue/Patterson Road and Coffee Road/Patterson Road intersections experience LOS "D" during one or both of the peak study hours. The Claus Road/Route 108 intersection experiences LOS "E" for motorists walking to turn left during both the morning and evening peak hours.

While the delays experienced by motorists at these unsignalized intersections are indicative of long delays, traffic conditions are generally not assumed to be unacceptable unless signal warrants are satisfied. Left turning traffic volumes are currently relatively minor and do not warrant installation of a traffic signal. Therefore, no improvements are recommended at any of the unsignalized study locations.

All-Way Stop Intersections. All of the all-way stop controlled intersections currently operate at LOS "C" or better during both peak hours. The most significant delay, 19 seconds, is experienced at the Claus Road/Claribel Road intersection during the a.m. peak hour, however, 19 seconds delay is within the threshold of requiring mitigations and warrants for signalization are not satisfied.

Alternative Transportation Modes

Transit. Stanislaus County Transit (SCT) operates seven public transit services. Six of these services are operated under contract with private companies. SCT also contracts with the Cities in Stanislaus County to provide additional services to the unincorporated areas in the County. In the vicinity of the study area, the closest weekday service point is provided on Paterson Rd/Route 108 between McHenry Avenue and Jackson as it passes through the City of Riverbank on the Modesto/Riverbank/Oakdale Bus Route. Weekday service is provided from 6:00 a.m. to 7:00 p.m. Transfer to other Stanislaus County Transit services and the Modesto Area Express service is available at 9th and I Streets in Modesto.

The City of Modesto and Stanislaus County provide Dial-A-Ride service to the elderly and handicapped seven days a week, everyday of the year by calling at least two hours in advance of departure. Dial-A-Ride is exclusively for the elderly (65 and older) and handicapped between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and between 9:00 a.m. and 5:00 p.m. on Saturdays. Dial-A-Ride provides services to the general public between 6:00 p.m. and 11:00 p.m. Monday through Fridays and between 9:00 a.m. to 5:00 p.m. on Sundays.

The City of Modesto provides fixed-route service throughout the Modesto area. The Modesto Area Express (MAX) operates between the hours of 6:15 a.m. to 6:30 p.m. Monday through Friday and 8:15 a.m. to 6:15 p.m. on Saturdays. MAX operates 25 buses on 16 separate routes. Patrons may catch MAX buses at most corners along their routes.

MAX routes currently do not conveniently serve the project site. MAX routes currently extend north on McHenry Avenue as far as Kiernan Avenue, on Marble between Coffee Road and Oakdale Road and on Sylvan Avenue from Oakdale Road west to SR 99.

Bicycle and Pedestrian. Due to the relatively rural nature of most the study area, established bicycle and pedestrian facilities adjacent to the roadways are limited. Individual roadway segments provide some paved shoulder area to accommodate bicycle and pedestrian travel, with sidewalk facilities provided in areas of recent residential and commercial development. However, most of the roadway segments serving the area are as originally constructed to rural standards and do not provide adequate area for bicycle and pedestrian use separated from the vehicular travel lanes. Bicycle/pedestrian routes are specifically provided via the Hetch Hetchy bicycle/pedestrian trail which runs through the southern portion of the project site.

PROJECT IMPACTS

Trip Generation

The number of automobile trips projected to be generated by the proposed project has been estimated through application of trip generation rates contained in the Institute of Transportation Engineers (ITE) publication, Trip Generation (Fifth Edition) and from rates published in the SAAG Travel Demand Model Documentation (November 1993).

Tables 4 and 5 present the trip generation rates applied to the proposed uses and the resulting number of trips projected to be generated by the site on a daily and peak hour basis. As shown, build out of the site with the proposed land use designations is projected to generate a total of 57,451 gross daily trips, with 4,503 and 5,588 gross trips occurring in the a.m. and p.m. peak hours, respectively.

TABLE 4
PROJECT TRIP GENERATION RATES

LAND USE	QUANTITY	DAILY TRIP RATE	AM PEAK HOUR			PM PEAK HOUR		
			% IN	% OUT	TOTAL	% IN	% OUT	TOTAL
Single Family	1,810 du	11.03/du	20%	74%	0.74	64%	36%	1.01
Multi-Family	136 du	5.28/du	17%	83%	0.51	68%	32%	0.63
Senior Residential ¹	90 du	3.68/du	45%	55%	0.17	56%	44%	0.28
Regional Business Park	1,167,408 sf	13.26/sf	85%	15%	1.45	22%	78%	1.21
Highway Commercial ²	217,800 sf	68.45/sf	63%	37%	1.57	50%	50%	6.36
Village Commercial	130,000 sf	40.67/sf	48%	52%	6.41	57%	43%	4.93
Elementary School ³	700 students	1.09/student	60%	40%	0.30	60%	40%	0.28

du = dwelling unit

sf = square feet

¹ = Senior Residential assumed 1/3 of single family trip rate

² = Highway Commercial assumed to have 25% coverage on 2-10 acre sites

³ = Elementary School assumed to have 700 students

TABLE 5
PROJECT TRIP GENERATION

LAND USE	QUANTITY	DAILY TRIPS	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family	1,810 du	19,964	348	991	1,339	1,170	658	1,828
Multi-Family	136 du	718	11	58	69	58	28	86
Senior Residential ¹	90 du	331	7	8	15	21	17	38
Regional Business Park	1,167,408 sf	15,480	1,440	255	1,695	311	1,102	1,413
Highway Commercial ²	217,800 sf	14,908	215	127	342	693	693	1,386
Village Commercial	130,000 sf	5,287	400	433	833	365	276	641
Elementary School ³	700 students	763	126	84	210	118	78	196
Subtotal Trips		57,451	2,547	1,956	4,503	2,736	2,852	5,588
Internal Matching 30%		6,230	552	206	758	203	413	616
Pass-by % (Highway Commercial) - 30%		4,472	65	38	103	208	208	416
Total "New" Trips Generated		40,519	1,930	1,712	3,642	2,325	2,231	4,556

du = dwelling unit

sf = square feet

¹ = Senior Residential assumed 1/3 of single family trip rate

² = Highway Commercial assumed to have 25% coverage on 2-10 acre sites

³ = Elementary School assumed to have 700 students

Pass-by Trips. ITE has also reported that the trip generation of may commercial activities is not all "new" traffic and that mixed use sites generate multi-purpose trips. Studies have shown that much of the traffic which is counted at commercial driveways (the source of the trip generation rates) are "non-diverted linked" or "pass-by" trips. A pass-by trip is one in which the driver was already traveling on the street or roadway on which the facility is located. Since not all of the trips are "new" trips to the facility, a reduction in the effective trip rate would be rationally justified.

ITE reports that approximately 30% to 60% of the trip generation of commercial facilities may be non-diverted linked trips. However, even though pass-by trips may have already been accounted for in the traffic volume on the adjacent street, they can significantly affect turning movement patterns at nearby or adjacent intersections. Pass-by trips are subtracted from some intersection approaches and then added back into other intersections or movements. In other words, pass-by trips are redistributed while new trips are added to the existing volumes. For this report, a 30% pass-by reduction was taken.

In addition to pass-by trip reduction, large mixed use projects tend to have a significant interaction between the land uses. In the case of the project, interaction between the residential uses and the business park and village commercial was assumed to occur. This interaction results in trips generated by both the residential and non-residential uses being internal to the project site. Hence, these trips will not effect the study intersections. For the purposes of this report, it was assumed that the a 30% internal discount from non-residential trip generation for interaction between the two uses would be applicable. This projection is consistent with the MINUTP travel demand model projections for the internal matching occurring between land uses internal to the project site itself.

Based on trip generation rates, the pass-by percentages and the internal matching assumed to occur, the Crossroads Community Specific Plan is estimated to generate 40,519 "new" daily trips with 3,642 a.m. peak hour trips and 4,556 p.m. peak hour.

Trip Distribution

Having determined the number of trips that can be anticipated to be generated by development of the site with the proposed uses, it is necessary to identify the directional distribution of projected traffic. The directional distribution will be influenced by both employment and shopping opportunities in the case of the residential portion of the project, and by surrounding population centers with regard to the employment opportunities provided by the business park and commercial portions of the site.

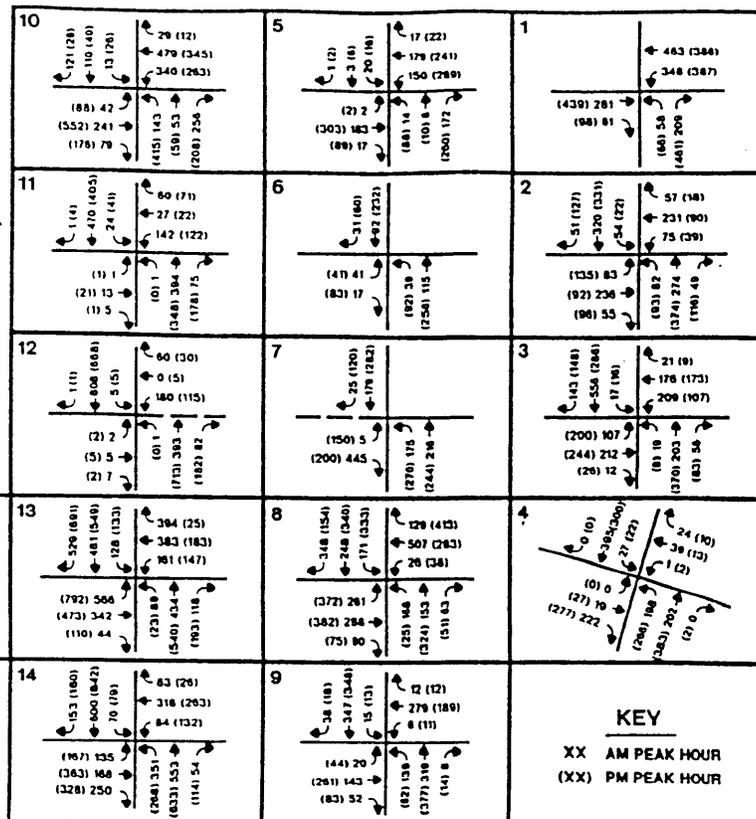
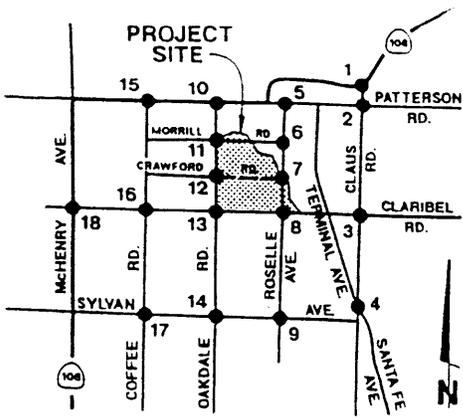
The countywide traffic model developed for SAAG was also used to quantify the directionality of travel. Table 6 presents the estimated directional distribution for external project generated traffic. As shown, the largest proportion of traffic is projected to be oriented to the south towards Modesto.

TABLE 6
DIRECTIONAL DISTRIBUTION
EXTERNAL PROJECT GENERATED TRAFFIC

DIRECTION	PERCENT OF TRAFFIC
State Route 108 Eastbound	9
McHenry Avenue to Escalon	10
State Route 219 Westbound	20
State Route 108 to Modesto	10
Coffee Road Southbound	10
Oakdale Road Southbound	8
Roselle Avenue Southbound	10
Claus Road Southbound	10
Claribel Road Eastbound	5
Patterson Road Eastbound	3
Santa Fe Avenue Northbound	5
TOTAL	100

Existing Plus Project Traffic Conditions

Using the directional distribution presented in Table 6, a.m. and p.m. peak hour traffic generated by development of the site was assigned to the adjacent street system. Project generated trips were then superimposed onto existing background traffic to represent conditions resulting from development of the site as currently proposed. The resulting peak hour traffic volumes are presented in Figure 3, which represent build out of the site layered together with existing background traffic. It is recognized that development of the site would occur over a number of years, however, this "Existing Plus Project" condition has been analyzed to isolate specific impacts due solely to development of the site. Table 7 presents the resulting Levels of Service at study area intersections.



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EXISTING PLUS PROJECT AM & PM PEAK HOUR TURNING MOVEMENTS

figure 3

**TABLE 7
EXISTING AND EXISTING PLUS PROJECT
INTERSECTION LEVELS OF SERVICE**

INTERSECTION	CONTROL	EXISTING				EXISTING + PROJECT			
		AM PEAK HOUR		PM PEAK HOUR		AM PEAK HOUR		PM PEAK HOUR	
		Delay or V/C	LOS	Delay or V/C	LOS	Delay or V/C	LOS	Delay or V/C	LOS
1. Claus Rd/Route 108 WB left (major) NB left (minor) NB right (minor)	1-way stop	525	A	385	B	350	B	130	D
		61	E	20	E	-4	F	-54	F
		589	A	217	C	429	A	-28	F
2. Claus Rd/Patterson Rd	4-way stop	10.7	C	6.1	B	17.2	C	14.5	C
3. Claus Rd/Claribel Rd	4-way stop	19.0	C	10.8	C	16.9	C	19.3	C
4. Claus Rd/Santa Fe Ave NB left (major) SB left (major) EB left (minor) WB left (minor)	2-way stop	657	A	716	A	484	A	708	A
		890	A	708	A	890	A	494	A
		203	B	189	D	117	D	98	E
		203	C	151	D	59	E	31	E
5. Roselle Ave/Patterson Rd ¹ EB left (major) WB left (major) NB left (minor) SB left (minor)	2-way stop	946	A	875	A	946	A	875	A
		800	A	597	A	761	A	394	B
		351	B	175	D	175	D	16	E
		239	C	112	D	318	B	25	E
6. Roselle Ave/Morrill Rd NB left (major) EB left (minor) EB right (minor)	1-way stop	987	A	915	A	939	A	735	A
		662	A	488	A	542	A	269	C
		938	A	805	A	914	A	665	A
7. Roselle Ave/Crawford NB left (major) EB left (minor) EB right (minor)	1-way stop	NA	NA	NA	NA	727	A	408	A
		NA	NA	NA	NA	301	B	-41	F
		NA	NA	NA	NA	296	C	442	A

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Appendix D

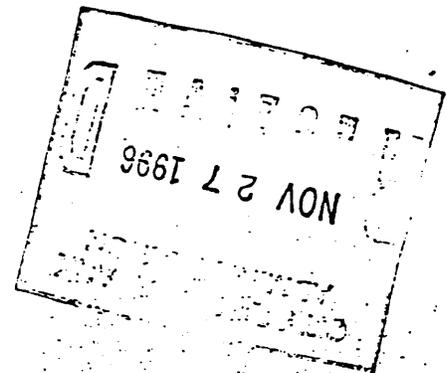
School Infrastructure Financing Agency (SFIA)
Schools Mello Roos District

**SCHOOLS INFRASTRUCTURE
FINANCING AGENCY
(SIFA)**

VILLAGE ONE

SCHOOLS MELLO-ROOS DISTRICT

ANNEXATION CHECKLIST



December 1994

VILLAGE ONE SCHOOLS MELLO-ROOS DISTRICT ANNEXATION CHECKLIST

General Background

Individual development projects within Village One are required to annex to the school Mello-Roos District formed jointly by the Sylvan and Modesto school districts through the Schools Infrastructure Financing Agency (SIFA CFD 1994-1). The statutory procedures for annexation to the CFD must be completed and the special tax lien recorded prior to recordation of a final map or final project approval. A building permit will not be issued until a project has been successfully annexed to CFD 1994-1.

SIFA CFD 1994-1 was formed using a single subdivision as the core project. It is designed to allow each subsequent development within Village One to annex to the District through election proceedings. At the discretion of the Sylvan and Modesto school boards and the Board of Directors of SIFA, other development projects outside of Village One may opt to meet school impact mitigation requirements through annexation to CFD 1994-1.

Tax Formula and Bond Authorization

The Rate and Method of Apportionment of the special tax (the special tax formula) is attached as Exhibit A. These rates, with the inflationary adjustments provided for in the formula, will apply to all development within Village One. When your project is annexed to CFD 1994-1, the property owner will be voting to subject the property to this tax formula and, along with all other property in CFD 1994-1, the \$50 million bond authorization for the purposes of constructing the authorized facilities. No property will be subject to any school tax or bond repayment liability other than as provided in the Rate and Method of Apportionment.

Annexation Process

SIFA has established three options for processing annexations into CFD 1994-1. These are outlined on Exhibit B. There are statutory timelines that must be complied with. In order to expedite processing of your project, please allow sufficient lead time to gather information and documents and process materials for the SIFA board meeting agendas. With certain restrictions, multiple development projects may be clustered into a single annexation proceeding to save administrative costs and processing time. In addition, a property owner may choose to grant a proxy to a party designated by SIFA who may then cast the owner's ballot in the annexation election. Upon execution and recordation of this proxy, the final map for the project may be recorded.

TIMELINES

The SIFA board meets on a monthly basis, on the 2nd Wednesday of the month. Meetings are held at 6:00 p.m. in the Sylvan School District Board Room at 605 Sylvan Avenue.

Annexation agreements and all required fees and documents must be filed with SIFA staff by 4:00 p.m. two weeks before the scheduled meeting.

The board will adopt a Resolution of Intention setting a public hearing on the annexation only after all required documents have been properly executed and submitted.

The hearing on the annexation cannot take place less than 30 days after the Resolution of Intention. If there have not been 30 days between regularly scheduled board meetings, the public hearing will be scheduled the following month (2 months from original meeting).

Unless sufficient protests are filed to prevent proceeding, the SIFA board will call the annexation election after closing the hearing. The property owner(s) (or designated proxy) must be present at the hearing to cast the ballot(s). The election proceedings will be certified at the same meeting.

The special tax lien will be submitted for recordation within three business days following the election. A final map for the project may be recorded once the special tax lien has been recorded.

Required documents are listed on the next page. The Government Code section delineating disclosure requirements is attached as Exhibit G along with the format to be used for disclosure of the tax obligations for CFD 1994-1.

1. Annexation Agreement. An executed and notarized agreement (Exhibit C) applying for annexation to CFD 1994-1 must be filed with SIFA staff. Through this agreement, the developer commits to provide each document and certification required for processing the annexation, agrees to be responsible for payment of the one-time tax if it is not paid as required by the tax formula, agrees to certain disclosure requirements, and files a deposit to cover the cost of the annexation proceedings (Government Code Section 53317 c and e). Depending on the number of projects being processed through a single election, a portion of the deposit may be refunded.
2. Boundary Map. A boundary map for each project being annexed to CFD 1994-1 must be provided. The map should be provided in the following formats:
 - 18" x 26" mylar and three blue line copies
 - 8 1/2" x 11" paperThe subdivision or parcel map may be modified to meet the requirements shown on Exhibit D. Assessor's parcel maps may be compiled on which the project boundary and other required information are shown. The map must identify all assessors parcels within the project boundary and the boundary of the area being annexed must follow existing parcel lines. The map must be certified by a licensed civil engineer. The annexation number to be included in the map title may be obtained from the Modesto City Schools Planning Department.
3. Registered Voter/Property Owner Certification. The annexation election will be voted on by property owners (one vote per acre) so long as there are fewer than 12 registered voters residing within the project area. SIFA does not intend to process registered voter elections absent special arrangements with the project proponent. The civil engineer for the project must verify the number of registered voters within the project and list all property owners showing APN and number of acres. The certification shown in Exhibit E must be filed as part of the application package. This certification must be made within 90 days prior to the hearing on the proposed annexation.
4. Waiver and Consent. The qualified electors (property owners) must file a Waiver and Consent document (Exhibit F) waiving some of the statutory election requirements, particularly the timelines. With this Waiver, the annexation election can take place within 30 days after the hearing. A proxy may also be filed designating a party acceptable to SIFA to vote in the annexation election. This proxy will be recorded. Upon completion of the annexation, or recordation of a proxy, and receipt of all other required documents, SIFA staff will notify the City of Modesto that all school financing requirements have been met.

**SCHOOLS INFRASTRUCTURE FINANCING AGENCY
COMMUNITY FACILITIES DISTRICT No. 1994-1**

RATE AND METHOD OF APPORTIONMENT

A special tax applicable to each Assessor's Parcel in Community Facilities District No. 1994-1 (herein "CFD No. 1994-1") shall be levied and collected according to the tax liability determined by the Governing Board (herein the "Board") of the Schools Infrastructure Financing Agency, acting in its capacity as the legislative body of CFD No. 1994-1, through the application of the appropriate special tax rate for "Developed Property", as defined below. All of the Developed Property in CFD No. 1994-1, unless exempted by law or by the provisions of Section E below, shall be taxed for the purposes, to the extent, and in the manner herein provided, including property subsequently annexed to CFD No. 1994-1 unless a separate Rate and Method of Apportionment of Special Tax is adopted for the annexation area.

A. DEFINITIONS

The terms hereinafter set forth have the following meanings:

"Assessor's Parcel" or "Parcel" means a parcel of property as shown and numbered on the Stanislaus County assessor's parcel map(s) for each property within the boundaries of CFD No. 1994-1.

"Assessable Space" means a particular area within a residential housing unit, as defined in Government Code Section 65995.

"Bonds" means all bonded indebtedness, or other financing obligations issued by the Schools Infrastructure Financing Agency by and through its Community Facilities District No. 1994-1 to pay for authorized facilities.

"Chargeable Covered and Enclosed Space" means a particular area within a commercial or industrial project, as defined in Government Code Section 65995.

"Developed Property" means the combination of both Taxable Residential Developed Property and Taxable Non-Residential Developed Property as defined below.

"Fiscal Year" means the period from July 1st of any calendar year through June 30th of the following calendar year.

"Maximum Special Tax" means the maximum Special Tax, determined in accordance with Section C below, that can be levied by the Board in any Fiscal Year on Developed Property.

"Multi-Family Residential" means any residential structure consisting of five or more residential units that share common walls including, but not limited to, condominiums and apartment units.

"Senior Housing Projects" or "Senior Housing" means those projects or the dwelling units in those projects, as defined in California Civil Code Section 51.5, specifically developed for senior citizens. Senior Housing shall be exempt from the Annual Special Tax unless it is determined to be Taxable Senior Housing, as defined below. However, if Senior Housing is replaced by non-Senior Housing in any future Fiscal Year, the non-Senior Housing units shall be considered Taxable Residential Developed Property and shall be subject to the levy of Special Taxes.

"Single Family Attached" means any residential structure consisting of two to four residential units that share common walls including, but not limited to, the following: townhomes, condominiums, duplexes, triplexes, and fourplexes.

"Single Family Detached" means a residential structure consisting of only one residential unit.

"Special Tax" means the Special Tax that may be levied on any Developed Property for any Fiscal Year to pay for facilities to be financed by CFD No. 1994-1 and to discharge Bonds.

"Special Tax Requirement" means the amount necessary in any Fiscal Year (i) to pay principal and interest on the Bonds, (ii) to create or replenish reserve funds (including shortfalls which have not yet occurred but based on delinquencies in the payment of Special Taxes which have already taken place or are expected to occur), (iii) to cure any delinquencies in the payment of principal or interest on indebtedness of CFD No. 1994-1 which have occurred in the prior Fiscal Year or (based on delinquencies in the payment of Special Taxes which have already taken place) are expected to occur in the Fiscal Year in which the tax will be collected, (iv) to pay administrative expenses of the CFD, and (v) to pay construction expenses to be funded directly from Special Tax proceeds in that Fiscal Year or to accumulate such proceeds for use in future Fiscal Years.

"Taxable Non-Residential Developed Property" means any Assessor's Parcel that had previously had a residential unit(s) built on it that had been taxed as Taxable Residential Developed Property but had subsequently been destroyed and replaced with or otherwise converted to a commercial, industrial, or other non-residential structure or use for which 1) an escrow has closed, or 2) a building permit has been issued, or 3) a notice of change of use has been issued on the Parcel prior to June 1 of the preceding Fiscal Year.

"Taxable Residential Developed Property" means any lot or Parcel of land located within CFD No. 1994-1 which is zoned and/or used for residential purposes and for which an escrow has closed for a completed housing unit prior to June 1 of the preceding Fiscal Year, but not prior to June 1, 1994.

Senior Housing shall not be considered Taxable Residential Developed Property unless it is determined to be Taxable Senior Housing, as defined on the following page. "Taxable Senior Housing" means any Senior Housing that replaces non-Senior Housing that had been subject to the annual Special Tax in prior Fiscal Years.

B. ASSIGNMENT TO LAND USE CLASS

On or about July 1 of each year, all Single Family Detached units shall be assigned to the appropriate land use category based upon Assessable Space as set forth on the most recent building permit issued for the Parcel. Single Family Attached and Multi-Family Residential Property shall be categorized based on the number of units set forth in each condominium plan, apartment plan, site plan or other development plan.

C. MAXIMUM SPECIAL TAX

1. *One-Time Special Tax*

In addition to the annual Special Taxes outlined in subsection C.2 below, a One-Time Special Tax shall be levied on all new construction in CFD No. 1994-1. The One-Time Special Tax for each residential unit (not including Senior Housing) shall be \$3.65 per square foot of Assessable Space and shall be payable to the CFD at the earlier of close of escrow for that residential unit or the 365th day following issuance of the building permit for such unit. The One-Time Special Tax for Senior Housing Projects, and commercial and industrial projects shall be \$.28 per square foot of Chargeable Covered and Enclosed Space and shall be payable to the CFD at the earlier of issuance of the Certificate of Occupancy or final City inspection. If Senior Housing changes to non-Senior Housing in future years, then the Parcel(s) will pay the difference between the One-Time Special Tax that is applicable for the new housing classification in that Fiscal Year and the One-Time Special Tax that had previously been paid by that Parcel in a prior Fiscal Year. However, Taxable Senior Housing and Taxable Non-Residential Developed Property (as defined above) shall not be subject to the levy of a new One-Time Special Tax upon conversion.

Beginning in January 1996, the One-Time Special Tax shall be adjusted annually to reflect the effect of inflation as indicated in the construction cost index for the prior twelve (12) month period published in the Northern California edition of the Engineering News Record or other comparable source if the Engineering News Record is discontinued or otherwise not available. Each annual adjustment of the One-Time Special Tax shall become effective on the subsequent July 1, and shall apply only to Parcels for which building permits are issued after July 1.

The One-Time Special Tax represents a lien on each Parcel which is anticipated to be released upon payment of the One-Time Special Tax at close of escrow.

2. *Annual Special Tax*

All Developed Property shall be subject to a Maximum Special Tax each Fiscal Year up to and including 30 years from the date of issuance of the final series of Bonds. However, in no event shall Special Taxes be levied after Fiscal Year 2059-2060. Table 1, below, sets forth the Maximum Special Tax for Fiscal Year 1994-95 for each class of Developed Property. On July 1, 1995 and on each July 1 thereafter, the Maximum Special Tax for Developed Property shall be increased by an amount equal to 2.0% of the amount in effect for the previous Fiscal Year.

The annual Special Tax shall be reflected as an annual lien on each Parcel of Developed Property in CFD No. 1994-1 and is anticipated to stay with the property and be paid each year by the current homeowner or property owner.

TABLE 1

**MAXIMUM SPECIAL TAXES ON DEVELOPED PROPERTY
COMMUNITY FACILITIES DISTRICT No. 1994-1
(FISCAL YEAR 1994-95)**

<u>Housing Classification</u>	<u>Housing Category (In Square Feet)</u>	<u>Maximum Special Tax</u>
Single Family Detached	2,001 and above	\$290 per unit
	1,601 to 2,000	240 per unit
	1,201 to 1,600	210 per unit
	1,200 and below	180 per unit
Single Family Attached	2 to 4 units	150 per unit
Multi-Family Residential	5 or more units	110 per unit
Taxable Senior Housing	NA	To Be Determined*
Taxable Non-Residential Developed Property	NA	To Be Determined**

* The Maximum Special Tax on Taxable Senior Housing shall be the amount needed on a per unit basis to replace the revenues that were lost when the non-Senior Housing was converted to Senior Housing. The Board shall determine, or cause to be determined, the Maximum Special Tax for each Taxable Senior Housing unit at the time a request is made to convert the non-Senior Housing.

** The Maximum Special Tax on Taxable Non-Residential Developed Property shall be the amount needed on a per acre basis to replace the revenues that were lost when the residential property was converted to non-residential property. The Board shall determine, or cause to be determined, the Maximum Special Tax for each Parcel of Taxable Non-Residential Developed Property at the time of conversion to non-residential use.

D. METHOD OF APPORTIONMENT OF THE SPECIAL TAX

Taxable Residential Developed Property

The Special Taxes shall be levied by the Board each Fiscal Year to the extent needed to meet the Special Tax Requirement. If, in any Fiscal Year, the Special Tax Requirement equals or exceeds the total Maximum Special Tax that may be levied on Taxable Residential Developed Property, then the Maximum Special Tax shall be levied on all Taxable Residential Developed Property. If the Special Tax Requirement is less than the total Maximum Special Tax that may be levied, then the Board may choose one of the following methods to levy the Special Tax:

- 1) the Special Tax may be levied on all Parcels of Taxable Residential Developed Property at the same percentage of the Maximum Special Tax for each land use class; or
- 2) the Board may reduce or eliminate the Special Tax on the Parcels of Taxable Residential Developed Property that have paid the Special Tax for the longest period of time and continue to levy up to the Maximum Special Tax on other Parcels of Taxable Residential Developed Property.

The Board will, on an annual basis, select which method shall be used to levy Special Taxes in CFD No. 1994-1.

Taxable Senior Housing and Taxable Non-Residential Developed Property

In the event that on July 1 of any Fiscal Year, the maximum projected revenues that can be generated from the levy of the Maximum Special Tax on all Taxable Residential Developed Property shall be insufficient to pay the Special Tax Requirement, then all Taxable Senior Housing and Taxable Non-Residential Developed Property shall be subject to a Special Tax for such Fiscal Year to the extent needed to cover the shortfall. The balance of the shortfall shall be levied proportionately on each Assessor's Parcel of Taxable Senior Housing and Taxable Non-Residential Developed Property up to 100% of the maximum rate, as shown in Table 1.

E. LIMITATIONS

Notwithstanding any other provision of this Rate and Method of Apportionment of Special Tax, no Special Taxes shall be levied on structures built on land that has been conveyed to a public agency, except as otherwise provided in Sections 53317.3 and 53317.5 of the Mello-Roos Community Facilities Act of 1982.

No annual Special Tax shall be levied in any Fiscal Year on Senior Housing units, commercial or industrial property that is not determined to be Taxable Senior Housing or Taxable Non-Residential Developed Property.

F. MANNER OF COLLECTION

1. *Annual Special Tax*

The Special Taxes for CFD No. 1994-1 shall be collected in the same manner and at the same time as ordinary ad valorem property taxes, provided, however, that CFD No. 1994-1 may (under the authority of Government Code Section 53340), in any particular case, bill the taxes directly to the property owner, off the County tax roll, and the Special Taxes will be equally subject to foreclosure if delinquent as annual Special Taxes.

2. *One-Time Special Tax*

The One-Time Special Tax shall be paid out of escrow and shall be immediately delinquent if not so paid. If no escrow has closed within 300 days of building permit issuance, a bill shall be prepared and sent by the District within 30 days. The bill shall declare the One-Time Special Tax to be due and payable on the 365th day following building permit issuance and delinquent 30 days later or upon close of escrow, whichever comes first.

3. *Enforcement*

All delinquent One-Time Special Taxes, or delinquent annual Special Taxes billed off the County tax roll, shall be subject to an immediate 10% penalty plus interest charges of 1 1/2% as of the first day of the month after the delinquency date and on the first day of each month thereafter. If no debt of the CFD is outstanding, any such delinquent Special Taxes shall be placed on the next secured property tax roll. The amount placed on the roll shall include the 10% penalty and the interest charges through the following December 1. This shall not prevent the Agency from simultaneously pursuing the delinquency by an action on a contract or guarantee against a third party who promised to pay the taxes, or from assigning such right of action to the property owner or other appropriate party.

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Options for Processing Annexations to SIFA CFD 1994-1

NOTE: SIFA will only process annexations in which fewer than 12 registered voters reside unless special arrangements are made by the developer.

1. Standard Property Owner Vote Process
 - No waiver and consent provided by developer
 - 120 days between initial board meeting and calling election
 - \$5,000 fee to cover election proceedings
 - mailed ballot election with an additional 30 days until election results can be certified and project cleared for approval
 - boundary map, registered voter/property owner certification and annexation agreement required

2. Normal Waiver and Consent - Single Property Owner Process
 - Waiver and Consent form filed by property owner along with annexation agreement
 - 30 days between initial board meeting and calling election
 - property owner may file proxy to allow for project approval prior to the election
 - boundary map, registered voter/property owner certification and annexation agreement required
 - \$2,500 annexation fee

3. Expedited Single Hearing Process - Multiple Properties
 - multiple properties are combined into a single hearing, with a single boundary map, provided there are fewer than 12 registered voters among all the properties
 - a single hearing is held on all the properties but no specific election is called
 - each property is then annexed individually upon filing of a written consent signed by all of the owners of that property
 - \$2,500 fee for overall proceedings, to be split among all the participating properties
 - \$100 annexation fee on each project when written consent is filed

ANNEXATION AGREEMENT

COMMUNITY FACILITIES DISTRICT NO. 1994-1
SCHOOLS INFRASTRUCTURE FINANCING AGENCY
STANISLAUS COUNTY, CALIFORNIA

This Annexation Agreement is entered into between the Schools Infrastructure Financing Agency (the "Agency"), a California joint-exercise of powers agency whose members are the Sylvan Union School District and the Modesto High School District, and _____

_____ (the "Developer"),
as of [date] _____.

Recitals

WHEREAS, the Developer owns approximately _____ acres of land, comprising Assessor's Parcel Numbers: _____

_____ (the "Property") which it wishes to annex to the Agency's Community Facilities District No. 1994-1 (the "CFD"); and

WHEREAS, the Agency wishes to annex the Property into the CFD; and

WHEREAS, the CFD is to provide financing for school facilities for the members of the Agency; and

WHEREAS, the members of the Agency and the Developer agree that annexation of the Property into the CFD will fully satisfy all school mitigation requirements imposed on the development of the Property; and

WHEREAS, the Rate and Method of Apportionment of Special Tax for the CFD, in addition to an annual special tax, includes a one-time special tax, based on house size, to be paid from and at close of escrow upon the sale of each home within the CFD or within 365 days of the issuance of the building permit for the home, whichever comes first; and

WHEREAS, the Agency is reluctant to pursue (but nonetheless retains the unrestricted right to pursue) enforcement of the one-time special tax against a homeowner's property in the event, for any reason, the one-time special tax is not paid in respect of that dwelling unit at the time required by the Rate and Method of Apportionment of the Special Tax for the CFD; and

WHEREAS, in view of the fact that the one-time tax is in lieu of a developer fee that would otherwise be required at building permit or final inspection, the Developer agrees to be separately responsible for payment of any one-time tax not paid in respect of a dwelling unit within the Property at the time required by the Rate and Method of Apportionment of the Special Tax for the CFD; and

WHEREAS, Developer further acknowledges that satisfaction of the Developer's mitigation obligation is contingent upon the execution of this Annexation Agreement with the Agency; and

WHEREAS, Certain maps and certificates are necessary for the annexation process which are to be provided by the Developer;

NOW, THEREFORE, the Agency and the Developer agree as follows:

Agreement

1. The above recitals are correct.
2. The Developer agrees to provide to the Agency, at its own expense and as a pre-condition to requesting annexation to the CFD, an Annexation Map meeting the requirements of California Streets and Highways Code Sections 3110 and 3110.5.
3. The Developer agrees to provide to the Agency, at its own expense and as a pre-condition to requesting annexation to the CFD, an Engineer's Certificate executed by an engineer licensed to practice in California, in the form attached hereto as Exhibit A.
4. The parties agree that the annexation procedure to be used shall be procedure _____, as shown on the list of procedures in Exhibit B as attached hereto.
5. Developer agrees to pay an annexation fee of \$ _____, and agrees that the Agency has no duty to proceed with annexation until the fee is paid.
6. Developer and each successive owner shall notify Agency of any sale or pending escrow closing to ensure timely payment of the one-time tax.
7. If the one-time special tax is not paid when required by the Rate and Method of Apportionment of the Special Tax, for any dwelling unit included in the Property, the Agency shall be entitled to make an immediate written demand upon the Developer for payment of the amount of the delinquent one-time special tax

plus a 10% penalty, and the Developer agrees immediately to pay the amount of the demand to the Agency as payment of the one-time special tax. In making the demand, the Agency shall list the delinquent one-time special tax parcel by address and Assessor's parcel number and shall include copies of the calculation evidencing the one-time special tax amount. If the amount of the demand is not paid within seven (7) days following mailing of the demand or within five (5) days following delivery thereof to the Developer, the Agency shall be entitled to have judgment entered against the Developer for the unpaid amount of the delinquent one-time special tax plus a 10% penalty plus interest at 1.5% per month accruing the first of each month which is more than 30 days from the expiration of the seven (7) or five (5) day period, plus costs and expenses of suit, including reasonable attorneys' fees. In the event that any portion of the one-time special tax is paid to the Agency from any other lawful source, the Agency may, in the proportion of the payment, assign its rights hereunder against the Developer to the payor.

8. In the event that the Developer fails in any respect to meet its obligations under this Agreement to pay delinquent one-time special taxes, the members of the Agency shall have the right, irrespective of any other fact or facts, to deny or withhold issuance of documentation certifying compliance with school mitigation requirements on any property of the Developer within the boundaries of that member, whether that property is within the CFD or not. Such remedy shall be in addition to and not in lieu of any other remedy in equity or law to which Agency

may be entitled or any cause of action which Agency may bring in any state or federal court to enforce the provisions of this Agreement.

9. The Developer may assign its rights and obligations under this Agreement, with the prior written consent of Agency, which consent shall not be unreasonably withheld and shall be limited to the Agency's review and analysis of the proposed assignee's financial ability to pay the one-time special tax obligations hereunder. No such assignment shall be made unless and until the party to which the assignment is to be made has entered into an agreement with the Agency expressly assuming the obligations set forth herein and has posted such security, as is required hereby. The Developer shall not be relieved of any of its obligations under this Agreement unless and until such an assumption agreement has been fully executed and has become effective.

10. The statutory notice to prospective purchasers of property within the CFD required of Developer by California Government Code Section 53341.5, in all cases where the one-time special tax is to be paid at the time of transfer, shall be satisfied by the Developer by using the form attached hereto as Exhibit C, except that statutory amendments made hereafter to the form in Section 53341.5 shall likewise be made to the form of Exhibit C.

11. The Developer will give notice of the terms of this Agreement to all purchasers of property in respect of which the one-time special tax will not have been accomplished by close of

escrow on the transfer from Developer within the boundary of the CFD, and shall especially draw such purchasers' attention to the fact that if the one-time special tax is not paid at close of escrow, the one-time special tax shall be immediately delinquent and may, in some circumstances, be subject to immediate foreclosure.

12. In the event that any provision of this Agreement is held to be invalid, void or otherwise unenforceable by any court of competent jurisdiction, such provision(s) shall be deemed severable from the remainder of this Agreement and shall in no way affect, impair or invalidate any other provisions contained herein. Should any provision of this Agreement be held unenforceable, the Developer and the Agency shall take such steps as equity and good faith require to provide for completion of the one-time special tax payments.

13. The Developer agrees to defend, indemnify and save and hold harmless the Agency, its officers, agents and employees from any and all claims, damages, liability or actions arising out of or connected with this Agreement, expressly including any action challenging the validity of this Agreement.

14. In the event that legal action is necessary to enforce the provisions of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees and costs.

15. Amendments or modifications to this Agreement shall be in writing and executed by both parties.

16. This Agreement and any attachments hereto and references herein constitute the entire agreement and

understanding between Agency and the Developer concerning the subject matter contained herein.

17. All notices requested by this Agreement shall be in writing and delivered in person or sent by first-class mail, postage prepaid. Written notices or communications required by or concerning this Agreement shall be addressed as follows:

Agency:

Secretary
Schools Infrastructure Financing Agency
c/o Modesto City Schools
426 Locust Street
Modesto, CA 95351

Developer:

Any party may change the address stated herein by giving notice in writing to the other party, and thereafter notices and correspondence shall be addressed and transmitted to the new address.

18. This Agreement is to be construed according to the laws of the State of California.

19. This Agreement may be executed in counterparts, each of which shall be treated as an original.

IN WITNESS WHEREOF, the parties execute this Agreement on the date(s) set forth below.

SCHOOLS INFRASTRUCTURE FINANCING AGENCY

Dated:

By _____
President

Attest:

Agency Secretary

DEVELOPER

By _____

[print name]

[title]

Schools Infrastructure Financing Agency

CFD 1994-1

Certificate of Engineer

I, _____, declare:

I prepared the boundary map of the proposed annexation number _____ to CFD 1994-1. I also prepared, from County records, the list of private property owners within the proposed annexation area attached hereto. I also personally inspected the land included in the proposed annexation and have noted the location of any dwelling units in which registered voters might reside. I have cross-checked those addresses with the County Registrar of Voters to determine the number of registered voters residing within the boundaries of the proposed annexation area.

Based on the foregoing, I have determined that on _____, 19____, there were _____ registered voters residing within the area proposed for annexation to CFD 1994-1.

Attached to this declaration is a list of those owning private property within the area proposed for annexation to CFD 1994-1, including the total number of acres each owns and the number of votes each will be entitled to cast in the election based on the formula of one vote per acre, or portion of an acre, owned.

I certify the foregoing to be true and correct as of _____, 19____.

(Print name)

License

Options for Processing Annexations to SIFA CFD 1994-1

NOTE: SIFA will only process annexations in which fewer than 12 registered voters reside unless special arrangements are made by the developer.

1. Standard Property Owner Vote Process

- No waiver and consent provided by developer
- 120 days between initial board meeting and calling election
- \$5,000 fee to cover election proceedings
- mailed ballot election with an additional 30 days until election results can be certified and project cleared for approval
- boundary map, registered voter/property owner certification and annexation agreement required

2. Normal Waiver and Consent - Single Property Owner Process

- Waiver and Consent form filed by property owner along with annexation agreement
- 30 days between initial board meeting and calling election
- property owner may file proxy to allow for project approval prior to the election
- boundary map, registered voter/property owner certification and annexation agreement required
- \$2,500 annexation fee

3. Expedited Single Hearing Process - Multiple Properties

- multiple properties are combined into a single hearing, with a single boundary map, provided there are fewer than 12 registered voters among all the properties
- a single hearing is held on all the properties but no specific election is called
- each property is then annexed individually upon filing of a written consent signed by all of the owners of that property
- \$2,500 fee for overall proceedings, to be split among all the participating properties
- \$100 annexation fee on each project when written consent is filed

Boundary Map Requirements

The boundary map of each area being annexed to CFD 1994-1 must include the following information.

TITLE:

ANNEXATION NUMBER _____
PROPOSED AMENDED BOUNDARIES OF
COMMUNITY FACILITIES DISTRICT NO. 1994-1
SCHOOLS INFRASTRUCTURE FINANCING AGENCY
COUNTY OF STANISLAUS, STATE OF CALIFORNIA

** Plus reference
to original
map (see sample
map)*

CERTIFICATES REQUIRED:

Filed in the office of the Secretary of the Schools
Infrastructure Financing Agency this _____ day of _____,
199__.

Stan Dobbs, Clerk
Schools Infrastructure Financing Agency

I hereby certify that this map was approved by the Governing
Board of the Schools Infrastructure Financing Agency at a regular
meeting thereof, held on the _____ day of _____, 199__,
by its Resolution No. _____.

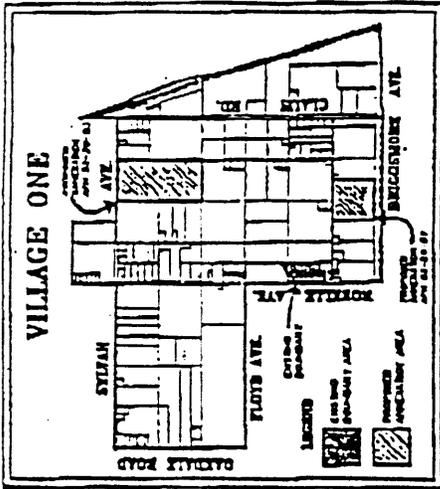
Stan Dobbs, Clerk
Schools Infrastructure Financing Agency

Filed this _____ day of _____, 199__, at the hour of
_____ o'clock _____ .m. in Book _____ of Maps of Assessment
and Community Facilities Districts at page(s) _____ in the
office of the County Recorder of the County of Stanislaus, State
of California.

Karen Mathews, County Recorder of the County of
Stanislaus, State of California

LEW-GARCIA-DAVIS
ENGINEERS/ARCHITECTS
LANDSCAPE ARCHITECTS
PLANNERS

ANNEXATION MAP NO. 1
BOUNDARIES OF PROPERTY
PROPOSED TO BE ANNEXED TO
COMMUNITY FACILITIES DISTRICT NO. 1994-1
SCHOOLS INFRASTRUCTURE FINANCING AGENCY
COUNTY OF STANISLAUS, STATE OF CALIFORNIA



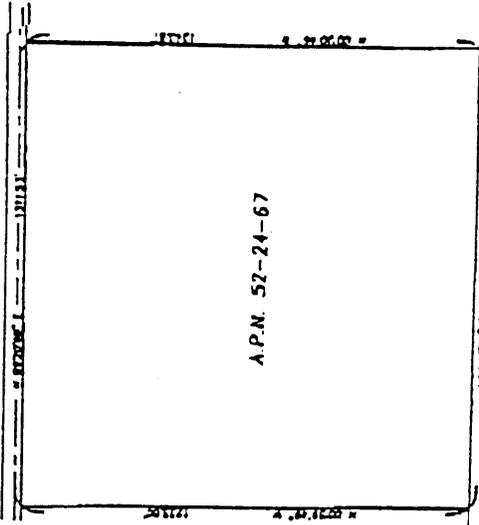
SIFA ANNEXATION MAP

SYLVAN AVENUE

AVENUE

A.P.N. 52-20-03

MERLE AVENUE



A.P.N. 52-24-67

M.I.D. LATERAL NO. 3

This map cross-references the map entitled "Proposed Amended Boundaries of Community Facilities District No. 1994-1, Schools Infrastructure Financing Agency, Stanislaus County, California" filed for record in the office of the County Recorder of the County of Stanislaus on May 19, 1995 under Recorder's Serial No. 40236, in Book 2 of Maps of Assessment and Community Facilities Districts at page 56.

This is the office of the Secretary of the Stanislaus County Board of Supervisors, Stanislaus County, California.

This is the office of the Stanislaus County Board of Supervisors, Stanislaus County, California.

This is the office of the Stanislaus County Board of Supervisors, Stanislaus County, California.

This is the office of the Stanislaus County Board of Supervisors, Stanislaus County, California.

Schools Infrastructure Financing Agency

CFD 1994-1

Certificate of Engineer

I, _____, declare:

I prepared the boundary map of the proposed annexation number _____ to CFD 1994-1. I also prepared, from County records, the list of private property owners within the proposed annexation area attached hereto. I also personally inspected the land included in the proposed annexation and have noted the location of any dwelling units in which registered voters might reside. I have cross-checked those addresses with the County Registrar of Voters to determine the number of registered voters residing within the boundaries of the proposed annexation area.

Based on the foregoing, I have determined that on _____, 19____, there were _____ registered voters residing within the area proposed for annexation to CFD 1994-1.

Attached to this declaration is a list of those owning private property within the area proposed for annexation to CFD 1994-1, including the total number of acres each owns and the number of votes each will be entitled to cast in the election based on the formula of one vote per acre, or portion of an acre, owned.

I certify the foregoing to be true and correct as of _____, 19____.

(Print name)

License

Property Ownership Verification
Annexation Number _____ to CFD 1994-1
Schools Infrastructure Financing Agency

Assessors
Parcel Number Property Owner Number of Acres Number of Votes

Schools Infrastructure Financing Agency

CFD 1994-1

Waiver and Consent Shortening Time Periods and Waiving Various Requirements for Conducting Mailed-Ballot Election

The undersigned is the authorized representative of

the owner of assessors parcel numbers _____,
within the above-captioned Community Facilities District (CFD).

The undersigned is the person legally entitled and authorized to cast the ballot(s) for the above-referenced parcels in the landowner, mailed-ballot election to be conducted within the CFD to determine, among other things, whether certain land, including land owned by the above-referenced owner, shall be subject to a special tax.

The undersigned, on behalf of the above-referenced owner, hereby waives any and all minimum time periods relative to the election pursuant to Government code Section 53326(a).

The undersigned, on behalf of the above-referenced owner, hereby waives the preparation and distribution of an impartial analysis of the ballot measure, as well as arguments in favor and against, under the authority of Government Code Section 53327 (b).

The undersigned, on behalf of the above-referenced owner, hereby waives the requirement to publish notice of the election under Government Code Section 53352.

The undersigned, on behalf of the above-referenced owner, hereby waives the requirements regarding the time to mail ballots to the qualified electors under Elections Code Section 4101, and agrees to accept either mailed service or personal service of the ballot.

The undersigned, on behalf of the above-referenced owner, hereby waives the requirements regarding identification envelopes for the return of mailed ballots contained in Government Code Section 53327.5.

Further, the undersigned, on behalf of the above-referenced owner, hereby waives any and all defects in notice or procedure in the conduct of the election, whether known or unknown, and states that the election is being expedited, pursuant to this waiver and consent, at the particular instance and request of the above-referenced owner.

I declare, under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct and that this declaration is executed on _____, 19_____.

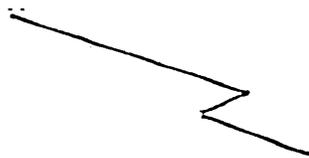
Signed _____

Print Name _____

NEW SUBDIVISION DISCLOSURE REQUIREMENTS

53341.5. Sale or lease of lot, parcel or unit of subdivision; notice of special tax; form; termination of agreement; violations and penalties

(a) If a lot, parcel, or unit of a subdivision is subject to a special tax levied pursuant to this chapter, the subdivider, his or her agent, or representative, shall not sell, or lease for a term exceeding five years, or permit a prospective purchaser or lessor to sign a contract of purchase or a deposit receipt or any substantially equivalent document in the event of a lease with respect to the lot, parcel, or unit, or cause it to be sold or leased for a term exceeding five years, until the prospective purchaser or lessee of the lot, parcel, or unit has been furnished with and has signed a written notice as provided in this section. The notice shall contain the heading "NOTICE OF SPECIAL TAX" in type no smaller than 8-point type, and shall be in substantially the following form***. The form may be modified as needed to clearly and accurately describe the tax structure and other characteristics of districts created before January 1, 1993, *or to clearly and accurately consolidate information about the tax structure and other characteristics of two or more districts that levy or are authorized to levy special taxes with respect to the lot, parcel, or unit:*



(See next page)

(b) "Subdivision," as used in subdivision (a), means improved or unimproved land that is divided or proposed to be divided for the purpose of sale, lease, or financing, whether immediate or future, into two or more lots, parcels, or units and includes a condominium project, as defined by Section 1350 of the Civil Code, a community apartment project, a stock cooperative, and a limited-equity housing cooperative, as defined in Section 11004, 11003.2, and 11003.4, respectively, of the Business and Professions Code.

(c) The buyer shall have three days after delivery in person or five days after delivery by deposit in the mail of any notice required by this section, to terminate his or her agreement by delivery of written notice of that termination to the owner, subdivider, or agent.

(d) The failure to furnish the notice to the buyer or lessee, and failure of the buyer or lessee to sign the notice of a special tax, shall not invalidate any grant, conveyance, lease, or encumbrance.

(e) Any person or entity who willfully violates the provisions of this section shall be liable to the purchaser of a lot or unit which is subject to the provisions of this section, for actual damages, and in addition thereto, shall be guilty of a public offense punishable by a fine in an amount not to exceed five hundred dollars (\$500). In an action to enforce such liability or fine, the prevailing party shall be awarded reasonable attorney's fees.

Amended by Statutes of 1993, Chapter 1193, Sec. 8.

NOTICE OF SPECIAL TAX

COMMUNITY FACILITIES DISTRICT NO. 1994-1
SCHOOLS INFRASTRUCTURE FINANCING AGENCY
COUNTY OF STANISLAUS, CALIFORNIA

TO: THE PROSPECTIVE PURCHASER OF THE REAL PROPERTY
KNOWN AS:

THIS IS NOTIFICATION TO YOU PRIOR TO YOUR ENTERING INTO A CONTRACT TO PURCHASE THIS PROPERTY. THE SELLER IS REQUIRED TO GIVE YOU THIS NOTICE AND TO OBTAIN A COPY SIGNED BY YOU TO INDICATE THAT YOU HAVE RECEIVED AND READ A COPY OF THIS NOTICE.

1. This property is subject to a special tax, which is in addition to the regular property taxes and any other charges, fees, special taxes, and benefit assessments on the parcel. It is imposed on this property because it is a new development and may not be imposed generally upon property outside of this new development. If you fail to pay this tax when due each year, the property may be foreclosed upon and sold. The tax is used to provide public facilities that are likely to particularly benefit the property. **YOU SHOULD TAKE THIS TAX AND THE BENEFITS FROM THE FACILITIES FOR WHICH IT PAYS INTO ACCOUNT IN DECIDING WHETHER TO BUY THIS PROPERTY.**
2. A one-time special tax of \$3.65 per square foot of residential space is assessed at close of escrow. **IF YOU ARE BUYING THIS PROPERTY, YOU SHOULD ASSURE YOURSELF, AND REQUIRE YOUR TITLE COMPANY TO ASSURE YOU THAT THIS ONE-TIME TAX HAS BEEN PAID OR IS BEING PAID FROM YOUR ESCROW.** Failure to ensure that the special tax is paid at close of escrow may subject your property to immediate foreclosure.

3. The maximum annual special tax which may be levied against this parcel to pay for public facilities is \$_____ during the _____ - _____ tax year. This amount may increase by 2% per year after that. The special tax will be levied each year until all of the authorized facilities are built and all special tax bonds are repaid.
4. The authorized facilities which are being paid for by the special taxes, and by the money received from the sale of bonds which are being repaid by the special taxes, are:
 - elementary school facilities
 - middle or junior high school facilities
 - a high school, including a pedestrian overpass across Sylvan Avenue

These facilities may not yet have all been constructed or acquired and it is possible that some may never be constructed or acquired.

YOU MAY OBTAIN A COPY OF THE RESOLUTION OF FORMATION WHICH AUTHORIZED CREATION OF THE COMMUNITY FACILITIES DISTRICT, AND WHICH SPECIFIES MORE PRECISELY HOW THE SPECIAL TAX IS APPORTIONED AND HOW THE PROCEEDS OF THE TAX WILL BE USED. THERE MAY BE A CHARGE FOR THIS DOCUMENT NOT TO EXCEED THE REASONABLE COST OF PROVIDING THE DOCUMENT. YOU MAY OBTAIN THESE DOCUMENTS OR INFORMATION FROM:

SCHOOLS INFRASTRUCTURE FINANCING AGENCY
C/O Modesto City Schools
426 Locust Street
Modesto, CA 95351
(209) 576-4032

I (WE) ACKNOWLEDGE THAT I (WE) HAVE READ THIS NOTICE AND RECEIVED A COPY OF THIS NOTICE PRIOR TO ENTERING INTO A CONTRACT TO PURCHASE OR DEPOSIT RECEIPT WITH RESPECT TO THE ABOVE-REFERENCED PROPERTY. I (WE) UNDERSTAND THAT I (WE) MAY TERMINATE THE CONTRACT TO PURCHASE OR DEPOSIT RECEIPT WITHIN THREE DAYS AFTER RECEIVING THIS NOTICE IN PERSON OR WITHIN FIVE DAYS AFTER IT WAS DEPOSITED IN THE MAIL BY GIVING WRITTEN NOTICE OF THAT TERMINATION TO THE OWNER, SUBDIVIDER OR AGENT SELLING THE PROPERTY.

DATE: _____

Appendix E

Mitigation Monitoring Program

CROSSROADS COMMUNITY SPECIFIC PLAN EIR MITIGATION MONITORING PROGRAM

Introduction

All public agencies are required by State law (AB 3180) to adopt monitoring programs when they approve proposed projects subject to environmental impact reports (EIR) or negative declarations (Neg Dec) that include mitigation measures to avoid significant adverse environmental impacts. The mitigation monitoring program is designed to ensure compliance with mitigation measures during project implementation in order to avoid significant adverse environmental impacts.

The law was passed in response to statewide historic non-implementation of mitigation measures presented in environmental documents and subsequently adopted as conditions of project approval. Monitoring ensures that mitigation measures are implemented and thereby provides a mechanism to evaluate the effectiveness of the mitigation measures.

A definitive set of mitigation measures would include enough detailed information and enforcement procedures to ensure compliance with the mitigation measures. This mitigation monitoring program is designed to provide a mechanism to ensure compliance with both existing and proposed mitigation measures.

Monitoring Program Procedures

It is required that the City of Riverbank use this mitigation monitoring program for the proposed project. The mitigation monitoring program should be implemented as follows:

- The Planning Department, or its designee, shall be responsible for coordination of the mitigation monitoring program. The Planning Department shall be responsible for completing the mitigation monitoring program and distributing the mitigation monitoring program to the responsible individuals or agencies for their use in monitoring the mitigation measures. It is the responsibility of the Planning Department to convey to all individuals and agencies who will use this program, that it must be thoroughly read and understood in order to properly implement its mitigations.
- Each responsible individual or agency will then be responsible for determining whether the mitigation measures contained in the monitoring program have been complied with. Once all mitigation measures have been complied with, the responsible individual or agency shall submit a copy of the mitigation monitoring program to the Planning Department to be placed in the project file. If the mitigation measure has not been complied with, the mitigation monitoring program shall not be returned to the Planning Department.

- Prior to the completion of the proposed project, the Planning Department shall review the mitigation monitoring program to ensure that all mitigation measures and additional conditions of project approval included in the mitigation monitoring program have been complied with.
- If a responsible individual or agency determines that a non-compliance has occurred, a written notice shall be delivered by certified mail to the entity or individual responsible for the project within 10 days, with a copy to the Planning Department, describing the non-compliance and specifying the manner in which compliance within a specified period of time will be attained. If a non-compliance still exists at the expiration of the specified period of time, construction may be halted and fines may be imposed at the discretion of the city.

Monitoring Program

The basis for this mitigation monitoring program is the existing mitigation measures contained in the *Crossroads Community Specific Plan EIR* prepared by EMC Planning Group, Inc. These mitigation measures become conditions of project approval which the project proponent is required to complete before, during, and after implementation of the proposed project.

Mitigation 1: All development within the project site shall be designed in accordance with the earthquake standards contained in the Uniform Building Code, subject to the review and approval of the City Engineer prior to issuance of a building permit.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

Prior to issuance of a building permit

Mitigation
Specifications:

The most current UBC shall be applicable

Agency/Individual
Responsible for
Monitoring:

City Engineer

Action by

Monitor:

Review plans for conformance with the latest UBC

Mitigation 2: Crossroads Community developers shall prepare a construction implementation soils analysis and design for the detention basin areas, with the intent that they also be utilized as groundwater recharge facilities. This can be completed in a phased manner and shall be subject to the review and approval of the City Engineer prior to issuance of a building permit for any phase of the project.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

Prior to issuance of a building permit for any phase of the project.

Mitigation
Specifications:

Soils analysis and design for the detention basin areas shall be based on the most current methodology.

Agency/Individual
Responsible for
Monitoring:

City Engineer

Action by
Monitor:

Verify conformity of report with current standards of the geotechnical profession

Mitigation 3: Crossroads Community developers whose projects contain or may affect areas 1-4 depicted in Figure 8 shall prepare additional wetlands assessments. The wetlands assessments shall be conducted by a qualified wetlands specialist to determine the presence or absence of potential jurisdictional wetlands on the plan area. These additional assessments are subject to review of the city prior to any development activity in these areas (see Figure 8).

Agency/Individual
Responsible for
Implementation:

Future developers whose property to be developed contains sites 1-4 as depicted in Figure 8.

Implementation
Timing:

Prior to issuance of permits to construct.

Mitigation
Specifications:

Assessments shall be conducted by a qualified biologist and shall be conducted per the requirements of the 1987 U.S.

Army Corps of Engineers' Wetlands Delineation Manual. Final report shall be submitted to the city for use in determining appropriate placement of future development. Also, refer to mitigation measure 7.

Agency/Individual
Responsible for
Monitoring:

City Engineer

Action by
Monitor:

Verify that wetlands analysis has been conducted and the results are reflected in future development.

Mitigation 4:

Potential jurisdictional wetlands as depicted on Figure 8, shall be reviewed by the COE to determine wetland status prior to City approval of a tentative subdivision map for any individual development project. Depending on the total wetlands acreage, the project would either require an Individual 404 Permit or a Nationwide Permit. For wetlands totaling under 10 acres, a pre-discharge notification needs to be submitted to the COE to determine if the project qualifies under a Nationwide Permit; mitigation may or may not be required under this scenario. For areas totaling 10 acres or greater, the project applicant must apply for an Individual Permit, which requires the attachment of a mitigation monitoring plan, plus an analysis of alternative site designs. Mitigation measures may include avoiding wetlands; minimizing impacts to wetlands plus on-or off-site replacement at a maximum ratio of 3:1; or off-site acquisition of "in kind" wetlands at a minimum 1:1 ratio. In the event that an Individual 404 permit is required, mitigation measures must address avoidance as an alternative in order for the permit application to be considered by COE.

Agency/Individual
Responsible for
Implementation:

Planning Director in conjunction with the COE.

Implementation
Timing:

Prior to issuance of permits to construct.

Mitigation
Specifications:

Reference mitigation

Agency/Individual
Responsible for
Monitoring:

Planning Director

Action by
Monitor: Follow-thru with mitigation

Mitigation 5: Pre-construction surveys for active burrowing owl dens in areas identified in Figure 8 shall be required of proposed future projects in or adjacent to the area of potential wintering habitat identified in this study. Standard procedures shall be followed for the survey, in coordination with the CDFG, subject to review and approval of the city prior to issuance of a grading or building permit. If present, the owls shall be passively relocated to off-site habitat contiguous with the project site, subject to the determination of the wildlife biologist. Relocation of the owls shall be performed by a qualified wildlife biologist, in coordination with CDFG. In the event that burrowing owls are determined to be nesting, the owls shall be relocated after a wildlife biologist has determined that the young have fledged. Passive relocation involves installing one-way doors in burrow entrances. The relocation shall be monitored for one week to confirm use of alternate burrows. Original burrows shall be filled to prevent reuse.

Agency/Individual
Responsible for
Implementation: Future developers

Implementation
Timing: Prior to issuance of grading permits

Mitigation
Specifications: Reference mitigation

Agency/Individual
Responsible for
Monitoring: Planning Director

Action by
Monitor: Verify implementation of the mitigation

Mitigation 6: Crossroads Community developers shall retain a qualified wildlife biologist to conduct nest surveys for the white-shouldered kite, red-tailed hawk, northern harrier, loggerhead shrike, and horned lark prior to construction activities for those projects scheduled to begin during breeding season (March 15 to July 31). If nests are found and eggs or nestlings are present, construction activity must be delayed until after the young have fledged, subject to the

determination of the wildlife biologist. If no nests are found, construction can begin immediately.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

Prior to issuance of grading permits

Mitigation
Specifications:

Reference mitigation

Agency/Individual
Responsible for
Monitoring:

Planning Director

Action by
Monitor:

Verify implementation of the mitigation

Mitigation 7:

Widen Claribel Road between Claus Road and SR 108 to four travel lanes along the project frontage and to a point 1,000 feet beyond the Oakdale And Roselle Avenue intersections. This improvement should be in place prior to full build-out of the project. The road should be widened when peak hour traffic on Claribel Road between Oakdale Road and Roselle Avenue reaches about 1,200 vehicles per hour (VPH). Based on interpolation between "Existing" and "Existing Plus Project" traffic volumes, this improvement should be installed when approximately 80-85% of the project has been developed. The cost of this improvement should be credited against the project's responsibility for unfunded cumulative mitigation.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

Prior to issuance of occupancy permits

Mitigation
Specifications:

None

Agency/Individual
Responsible for
Monitoring:

City Engineer

Action by Monitor: Verify that mitigation has been implemented prior to issuance of occupancy permits.

Mitigation 8: Widen Oakdale Road between Claribel Road and SR 108 to four travel lanes. This mitigation should be implemented when traffic volumes reach about 1,200 VPH on Oakdale Road. This traffic volume would likely be reached just north of Claribel Road when about 15% of the project is occupied, but would not be reached north of the regional commercial/business park access until approximately 50% of the project is occupied. The cost of this improvement should be credited against city/county fees.

Agency/Individual Responsible for Implementation: Future developers

Implementation Timing: Prior to issuance of occupancy permits

Mitigation Specifications: None

Agency/Individual Responsible for Monitoring: City Engineer

Action by Monitor: Verify that mitigation has been implemented prior to issuance of occupancy permits.

Mitigation 9: Widen Roselle Avenue between Claribel Road and State Route 108 to four travel lanes. This mitigation should be implemented when traffic volumes reach about 1,200 VPH on Roselle Avenue. This traffic volume would likely be reached just north of Claribel Road when about 15% of the project is occupied, but north of the regional commercial/business park access, about 50% of the project could be occupied before widening would be necessary on this section. The cost of this improvement should be credited against city/county fees.

Agency/Individual Responsible for Implementation: Future developers

Implementation Timing:	Prior to issuance of occupancy permits
Mitigation Specifications:	None
Agency/Individual Responsible for Monitoring:	City Engineer
Action by Monitor:	Verify that mitigation has been implemented prior to issuance of occupancy permits.
Mitigation 10:	The Crossroads Community developers shall be responsible for the following improvements to the Oakdale Road/Claribel Road intersection. The intersection improvements include signalization, and the provision of left-turn channelization at each approach, with dual left-turn lanes on the eastbound and westbound Claribel Road approach and an auxiliary right-turn lane on the southbound Oakdale Road approach. This is subject to the review and approval of the City Engineer prior to the issuance of the first development permit. The portion of this cost which is included in the existing fee programs should be determined in consultation with Stanislaus County and the City of Riverbank, and the project should be credited applicable costs against fees.
Agency/Individual Responsible for Implementation:	Future developers
Implementation Timing:	Prior to issuance of occupancy permits
Mitigation Specifications:	None
Agency/Individual Responsible for Monitoring:	City Engineer
Action by Monitor:	Verify that mitigation has been implemented prior to issuance of occupancy permits.
Mitigation 11:	The Crossroads Community developers shall be responsible for the following improvements to the Roselle Avenue/Claribel Road intersection. The intersection

improvements include signalization, and the provision of left-turn channelization at each approach, with the provision of a separate westbound right-turn lane on the Claribel Road approach. This is subject to the review and approval of the City Engineer prior to the issuance of the first development permit. The portion of this cost which is included in the existing fee programs should be determined in consultation with Stanislaus County and the City of Riverbank, and the project should be credited applicable costs against fees.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

Prior to issuance of the first development permit

Mitigation
Specifications:

None

Agency/Individual
Responsible for
Monitoring:

City Engineer

Action by
Monitor:

Verify that mitigation has been implemented prior to issuance of occupancy permits.

Mitigation 12:

To avoid signalization warrants being met, the Crossroads Community developers shall provide a separate northbound right-turn lane at the Patterson Road/Roselle Avenue intersection. This northbound separate right turn lane may be constructed as the drop lane when going from the 4 lanes section of Roselle Avenue south of Route 108 to the 2 lane section north of Route 108. Therefore, the cost of widening Roselle Avenue to 4 lanes would include the cost for providing a separate right turn lane at this location. This mitigation shall be subject to the review and approval of the City Engineer prior to the issuance of the first development permit.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

Prior to the issuance of the first development permit.

Mitigation Specifications:	None
Agency/Individual Responsible for Monitoring:	City Engineer
Action by Monitor:	Verify that mitigation has been implemented prior to issuance of occupancy permits.
Mitigation 13:	The Crossroads Community developers shall provide separate left- and right-turn lanes on the Crawford Road approach to Roselle Avenue. However, ultimately this intersection will need to be signalized as traffic volumes on Roselle Avenue continue to increase. This mitigation shall be subject to the review and approval of the City Engineer prior to the issuance of the first development permit.
Agency/Individual Responsible for Implementation:	Future developers
Implementation Timing:	Prior to issuance of first development permit
Mitigation Specifications:	None
Agency/Individual Responsible for Monitoring:	City Engineer
Action by Monitor:	Verify that mitigation has been implemented prior to issuance of occupancy permits.
Mitigation 14:	When traffic volumes warrant signalization, the Crossroads Community developers shall install a traffic signal at the Oakdale Road/South Project Access intersection. Other intersection improvements include dual left-turns exiting the plan area, with an exclusive northbound right-turn lane into the plan area from Oakdale Road. In addition to the free right-turn lane, a shared through plus right-turn lane should be provided on the northbound Oakdale Road approach into the project site.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

When traffic counts warrant

Mitigation
Specifications:

Traffic counts will be initiated at the discretion of the City
Engineer

Agency/Individual
Responsible for
Monitoring:

City Engineer

Action by
Monitor:

Verify that mitigation has been implemented.

Mitigation 15:

When traffic volumes warrant signalization, the Crossroads
Community developers shall install a traffic signal at the
Roselle Avenue/Highway Commercial Project Access
intersection.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

When traffic counts warrant

Mitigation
Specifications:

Traffic counts will be initiated at the discretion of the City
Engineer

Agency/Individual
Responsible for
Monitoring:

City Engineer

Action by
Monitor:

Verify that mitigation has been implemented.

Mitigation 16:

Future developers shall locate the access road to the
highway commercial off of Roselle elsewhere on Roselle
Avenue such that in the cumulative development scenario,
access to the shopping center is not limited to right turns in
and out only. The future location of an access road shall be
based on the premise that left and right turns into and out of
the highway commercial area are mandatory.

Agency/Individual Responsible for Implementation:	Future developers
Implementation Timing:	When traffic counts warrant
Mitigation Specifications:	Traffic counts will be initiated at the discretion of the City Engineer
Agency/Individual Responsible for Monitoring:	City Engineer
Action by Monitor:	Verify that mitigation has been implemented.

Mitigation 17: Project plans for all proposed gas stations shall include provision for a Compressed Natural Gas fueling station, subject to the review and approval of the APCD and city prior to issuance of a building permit.

Agency/Individual Responsible for Implementation:	Gas station proponent
Implementation Timing:	Prior to issuance of building permits
Mitigation Specifications:	Plans shall incorporate CNG fuel station
Agency/Individual Responsible for Monitoring:	APCD and City Engineer
Action by Monitor:	Verify compliance

Mitigation 18: Crossroads Community developers shall incorporate 50 percent more trees, including existing trees, into landscaped areas than required by the City of Riverbank land-use regulations. These landscaped areas shall be incorporated into the project designs, subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

Prior to approval of a final subdivision map.

Mitigation
Specifications:

Landscape plans shall be developed by a qualified landscape architect who is knowledgeable and has access to the latest technology regarding the placement of trees, the appropriate type of trees for the area and their care. Preference shall be given in the landscape plans to native trees of the San Joaquin Valley.

Agency/Individual
Responsible for
Monitoring:

Planning Director

Action by
Monitor:

Verify the qualifications of the landscape architect and determine that the proposed trees and vegetation proposed in future landscape plans are appropriate for the region.

Mitigation 19:

In anticipation of expanded bus service to the plan area, Crossroads Community developers shall coordinate with the City of Riverbank to determine specifications and locations of bus stops necessary at the plan area. They shall then incorporate these stops into their project designs as easements, which shall be submitted to and approved by the City Planning Director prior to the approval of a final subdivision map.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

Prior to approval of a final subdivision map

Mitigation
Specifications:

Selection of future bus sites shall be coordinated with the local transit district.

Agency/Individual
Responsible for
Monitoring:

Planning Director

Action by Monitor: Verify coordination with local transit district

Mitigation 20: Individual project plans for residential development shall include provision for electrical recharge outlets conveniently located in all residential garages for electric cars. This requirement shall be included in future development plans, subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.

Agency/Individual Responsible for Implementation: Future developers and/or property owners

Implementation Timing: Prior to approval of a final subdivision map and/or issuance of building permits.

Mitigation Specifications: Contact the SJVUAPCD regarding appropriate hardware and location of outlets in structures.

Agency/Individual Responsible for Monitoring: City Engineer

Action by Monitor: Check plans for outlets

Mitigation 21: If the Crossroads Community developers proposing residential development propose to install fireplaces, they shall be required to install EPA-certified wood stoves, pellet stoves or fireplace inserts instead of conventional open-hearth fireplaces. The use of natural gas fired fireplaces should be encouraged. This requirement shall be subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.

Agency/Individual Responsible for Implementation: Future developers and/or property owners

Implementation Timing: Prior to approval of a final subdivision map and/or issuance of building permits

Mitigation Specifications: Reference mitigation

Agency/Individual
Responsible for
Monitoring:

Planning Director

Action by
Monitor:

Verify that wood stove is EPA certified.

Mitigation 22:

Crossroads Community developers proposing residential development shall provide outdoor electrical outlets at residences to allow use of electric lawn and landscape maintenance equipment. This requirement shall be subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.

Agency/Individual
Responsible for
Implementation:

Future developers and/or property owners

Implementation
Timing:

Prior to approval of a final subdivision map and/or issuance of building permits

Mitigation
Specifications:

Reference mitigation

Agency/Individual
Responsible for
Monitoring:

Planning Director

Action by
Monitor:

Verify that plans include outlets

Mitigation 23:

Crossroads Community developers proposing residential development shall make natural gas available in residential backyards to allow use of natural gas-fired barbecues. This requirement shall be subject to the review and approval of the City Planning Director prior to approval of a final subdivision map.

Agency/Individual
Responsible for
Implementation:

Future developers and/or property owners

Implementation
Timing:

Prior to approval of a final subdivision map and/or issuance of building permits

Mitigation Specifications: Reference mitigation

Agency/Individual Responsible for Monitoring: Planning Director

Action by Monitor: Verify that plans include outlets

Mitigation 24: Contractor specifications for any proposed construction project shall include the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) dust control measures and shall be printed on or affixed to plans to be submitted to the Building Department for review and approval prior to issuance of a grading permit for each specific development project. The following SJVUAPCD emission reduction measures shall be implemented:

- Suspend earth moving or other dust-producing activities during periods of high winds when dust control measures are unable to avoid visible dust plumes.
- Provide equipment and staffing for watering of all exposed or disturbed soil surfaces sufficient to suppress dust plumes, including weekends and holidays. An appropriate dust palliative or suppressant, added to water before application, should be utilized.
- Water or cover stockpiles of debris, soil, sand or other materials that can be blown by the wind.
- Sweep construction area and adjacent streets of all mud and debris, since this material can be pulverized and later re-suspended by vehicle traffic.
- Limit the speed of all construction vehicle to 15 miles per hour while traveling on unpaved surfaces.
- Water all inactive portions of the site with an appropriate dust suppressant, cover, or seed them.
- During rough grading and construction, access to construction sites should require the building of an apron into the plan area from adjoining paved roadways. The apron should be paved or have a petroleum-based palliative applied.

Agency/Individual Responsible for Implementation: Future developers

Implementation
Timing:

Prior to issuance of grading permits

Mitigation
Specifications:

Contractor specifications for any proposed construction project shall be submitted to the Building Department for review and approval prior to issuance of a building permit for that specific development project. Future applicants shall work with the SJVUAPCD to determine the most appropriate model to use to determine potential dust emissions from construction activities.

Agency/Individual
Responsible for
Monitoring:

Planning Director

Action by
Monitor:

Review specifications in conjunction with APCD staff

Mitigation 25:

Crossroads Community developers proposing development adjacent to Morrill, Roselle, Oakdale, and Claribel Roads and development adjacent to the Major Neighborhood Collectors and the Neighborhood Collectors (designated Primary Neighborhood Collectors only) located within the project, shall conduct acoustical analyses. Such analyses shall determine the potential future noise contours for these roadways using the best available SAAG Model Land Use Listing and similar planning forecasting models. Proposed structures that would be located within areas that exceed the Riverbank General Plan noise standards (outdoors: 60 dB; indoors: 45 dB) shall be required to provide appropriate mitigations such as setbacks, building design measures, and/or sound walls, subject to review and approval of the planning director prior to issuance of a building permit.

Secondary Impact from implementation of mitigation: Soundwalls are one-dimensional and unarticulated monolithic structures. This is considered to be an objectionable and potentially significant negative aesthetic impact.

Mitigation for secondary impact: The city shall require of all developers proposing soundwalls to submit soundwall design plans to the City of Riverbank Planning Director for review and approval. Soundwall design plans shall be integrated with a landscaping plan that incorporates a variety of vegetation (species and heights). Wall designs shall

include surface relief features (e.g. sconces) such as wood, steel or concrete affixed to the outer wall. Such features could be free-standing trellises straddling soundwalls (or attached to walls). Straight lengths of wall exceeding 50 feet without relief such as those described above shall not be permitted.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

Noise model run and recommendations for mitigating any potential noise impacts shall be integrated as part of a development application.

Mitigation
Specifications:

Noise model shall be conducted by a qualified noise consultant. Due to their negative aesthetic impact, sound walls greater than six feet shall not be a generally accepted method to alleviate noise impacts.

Agency/Individual
Responsible for
Monitoring:

Planning Director

Action by
Monitor:

Verify model run

Mitigation 26:

As an implementation step of the Specific Plan and subsequent to annexation of the plan area, the proponent(s) of future development shall be required to prepare a public works master plan and a capital improvement program for the project site prior to future entitlements, subject to the review and approval of the City Planning Director and City Engineer.

Agency/Individual
Responsible for
Implementation:

Future development

Implementation
Timing:

Prior to future entitlements

Mitigation
Specifications:

None

Agency/Individual
Responsible for
Monitoring:

Planning Director and City Engineer

Action by
Monitor:

Verify appropriateness and adequacy of future plans and programs.

Mitigation 27:

The capital improvement program for the Crossroads Community shall include payment of the proposed project's fair share of the following improvements to the city's sewage treatment and collections system: a major trunk line extension in accordance with the current sewer master plan and additional aerators to increase treatment plant capacity. This payment shall be made for each individual development project, subject to review and approval of the City Engineer, prior to approval of a final subdivision map, or any other land use entitlement.

Agency/Individual
Responsible for
Implementation:

Future developers and/or property owners

Implementation
Timing:

Payments shall be made prior to approval or concurrent to approval of final subdivision maps and/or prior to or concurrent to issuance of building permits.

Mitigation
Specifications:

Reference Implementation Timing requirement

Agency/Individual
Responsible for
Monitoring:

City Engineer

Action by
Monitor:

Verify payment

Mitigation 28:

Refer to Mitigation 26.

Mitigation 29:

The Crossroads Community developers shall coordinate with the city to provide their fair share fees for the city's water system. Fees are subject to review and approval of the City Engineer and shall be paid prior to approval of a final subdivision map.

Agency/Individual
Responsible for
Implementation:

Future developers and/or property owners

Implementation
Timing:

Payments shall be made prior to approval or concurrent to approval of final subdivision maps and/or prior to or concurrent to issuance of building permits.

Mitigation
Specifications:

Reference Implementation Timing requirement

Agency/Individual
Responsible for
Monitoring:

City Engineer

Action by
Monitor:

Verify payment

Mitigation 30:

As required by the CEQA Guidelines, Appendix K, if cultural resources are discovered during project-related activities, all work shall cease in the vicinity of the find and the lead agency and a qualified archaeologist are to be contacted regarding evaluation of the discovery. If Native American remains are found, the County Coroner and the Native American Heritage Commission in Sacramento are to be notified for recommended procedures. This mitigation shall be included as a contractor work specification on all copies of plans.

Agency/Individual
Responsible for
Implementation:

Future developers

Implementation
Timing:

During construction activities

Mitigation
Specifications:

Contractor work specifications for any proposed construction project shall be submitted to the Building Department for review and approval prior to issuance of a building permit for that specific development project, indicating that if cultural resources are discovered during project-related activities, all work shall cease in the vicinity of the find and, depending on the nature of the find, the lead agency and an archaeologist, or the County Coroner and the Native American Heritage Commission are to be contacted regarding recommended procedures.

Agency/Individual
Responsible for
Monitoring:

Planning Director

Action by
Monitor:

Verify that plans include contractor work specifications.

Mitigation 31:

Patterson Road/Roselle Avenue. With the addition of project generated trips, an additional eastbound and westbound left turn lane will be needed to provide satisfactory LOS.

Agency/Individual
Responsible for
Implementation:

City Engineer

Implementation
Timing:

City Engineer shall commence traffic counts using counters at some point in the future to determine the appropriate timing for implementation of this mitigation.

Mitigation
Specifications:

City Engineer shall commence traffic counts using counters at some point in the future to determine the appropriate timing for implementation of this mitigation.

Agency/Individual
Responsible for
Monitoring:

City Engineer

Action by
Monitor:

City Engineer shall commence traffic counts using counters at some point in the future to determine the appropriate timing for implementation of this mitigation.

Mitigation 32:

Claribel Road/Roselle Avenue. An additional northbound and southbound through lane will need to be carried through the intersection to provide a satisfactory LOS.

Agency/Individual
Responsible for
Implementation:
Implementation
Timing:

Refer to mitigation 36

Refer to mitigation 36

Mitigation
Specifications:

Refer to mitigation 36

Agency/Individual Responsible for Monitoring:	Refer to mitigation 36
Action by Monitor: Mitigation 33:	Refer to mitigation 36 <u>Sylvan Road/Oakdale Road</u> . An additional eastbound and westbound through lane will need to be carried through the intersection to provide a satisfactory LOS.
Agency/Individual Responsible for Implementation:	Refer to mitigation 36
Implementation Timing:	Refer to mitigation 36
Mitigation Specifications:	Refer to mitigation 36
Agency/Individual Responsible for Monitoring:	Refer to mitigation 36
Action by Monitor: Mitigation 34:	Refer to mitigation 36 <u>Project Access Intersections</u> . Traffic signals will eventually become necessary at the Crawford Road intersections and at the access locations to the regional commercial/business park and highway commercial uses. In addition, signalization will be needed at the Roselle Avenue/Morrill Avenue intersection. The project shall be responsible for installing these traffic signals in the future when warrants are met.
Agency/Individual Responsible for Implementation:	Refer to mitigation 36
Implementation Timing:	Refer to mitigation 36
Mitigation Specifications:	Refer to mitigation 36
Agency/Individual Responsible for Monitoring:	Refer to mitigation 36
Action by Monitor:	Refer to mitigation 36

