DRAFT ENVIRONMENTAL IMPACT REPORT 88-11
SCH NO. 88070516
KEARNY VENTURES, LTD.

GENERAL PLAN AMENDMENT, ZONE RECLASSIFICATION AND MAJOR SUBDIVISION FOR THE CROSSROADS INDUSTRIAL PARK

PREPARED FOR
SAN JOAQUIN COUNTY
DEPARTMENT OF PLANNING
AND BUILDING INSPECTION

APRIL 1989

PREPARED BY
MILLS ASSOCIATES

SAN JOAQUIN COUNTY
DEPARTMENT OF PLANNING AND BUILDING INSPECTION

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Deputy Director

April 3, 1989

MEMORANDUM

TO: Reviewing Agencies and Interested Persons

FROM: San Joaquin County Planning Division KS

SUBJECT: REVIEW OF DRAFT ENVIRONMENTAL IMPACT REPORT NO. ER-88-11 FOR THE PROPOSED "CROSSROADS" PROJECT (C/O KEARNY VENTURES, LTD., SCH# 88070516)

Attached for your review and comment is the Draft Environmental Impact Report (DEIR) prepared for the proposed Kearny Ventures project called "The Crossroads" in Lathrop. If you have any comments on this document, they should be submitted in written form to this office by May 17, 1989. There will also be a public hearing before the Planning Commission on May 4, 1989, to receive comments on the DEIR.

If you have any questions regarding this matter, please contact Kerry Sullivan, Associate Planner, at (209) 468-3140.

* * *

KS/blm
Attachment

GENERAL PLAN AMENDMENT, ZONE RECLASSIFICATION AND MAJOR SUBDIVISION FOR CROSSROADS INDUSTRIAL PARK

Prepared for
San Joaquin County

Prepared by
Mills Associates
Moraga, California

April 1989

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SECTION I

INTRODUCTION

A. PURPOSE OF AN EIR

San Joaquin County has determined that an Environmental Impact Report (EIR) is required to study a request to amend the Land Use/Circulation Element Map of the San Joaquin County General Plan from General Industrial to Highway Service and to Limited Industrial. A Zone Reclassification is also being requested to rezone portions of the site from M-2 (General Manufacturing) to H-S (Highway Service) and from M-2 to C-M (Commercial Manufacturing). The applicant also seeks approval for a major subdivision. Under the California Environmental Quality Act (CEQA) (Public Resources Code section 21000 et. seq.), and the CEQA Guidelines (14 California Administrative Code Section 15000 et. seq.), the purpose of an EIR is to provide objective information to public decision makers and the general public regarding potential environmental effects resulting from project implementation.

B. EIR REQUIREMENT

The request for a General Plan Amendment, Zone Reclassification and approval of an underlying project to develop a major subdivision creating 61 lots is considered a "project" as defined by the CEQA Guidelines (Section 15378). The Guidelines require preparation of an EIR when a lead agency determines that there is substantial evidence on the record that a project may have a significant effect on the environment (Section 15064). The County Planning and Building Inspection Department made such a determination.

C. SCOPE OF EIR

As Lead Agency, San Joaquin County planning staff prepared an Initial Study and a Notice of Preparation (see Appendix A) that were circulated to local, state, and regional agencies and other interested parties. The Initial Study determined that an EIR would be required for the proposed project and identified the major environmental issues to be addressed. These issues include: air quality; land use; loss of agricultural land; increased demand for law enforcement and fire protection services; provision of sewer and water services; potential groundwater contamination from two existing hazardous waste sites, potential flooding, increased traffic and circulation, General Plan consistency; growth inducement and cumulative effects. The Initial Study determined that the project would have a negligible impact or no impact on the following: grading and erosion; drainage; biotic resources; noise and aesthetics. A review of the California Natural

Diversity Data Base revealed that two plant and one bird species had been sighted in the vicinity of the project site. These included the Delta button celery, slough thistle and tricolored blackbird. All three species are candidates for the federal and state endangered species list. However, because the project site has historically been modified and used for agriculture, there is little likelihood of any impacts on the biotic community.

A site reconnaissance, interviews with staff and interested parties, and review of relevant planning policy were utilized in the completion of this report.

This EIR is an informational document to aid in the local planning and decision-making process. It describes the probable consequences that the proposed project may have on the environment, suggests ways to minimize potential adverse effects and evaluates alternatives to the proposed project. Impacts identified in the report can become the basis for findings for the County's actions on the project. Mitigations recommended in the EIR can become conditions of approval if the County chooses to approve the project.

This EIR will focus solely on the impacts related to the General Plan Amendment and Rezoning application. Issues associated with the proposed annexation of the site by the City of Manteca will be discussed only in the context of providing water and sewer service by the City of Manteca. Impacts relative to the annexation and request to change the City's sphere of influence boundary will be dealt with at the time the City prepares an EIR for either one of these actions.

It is not the intent, nor is it in the workscope of this EIR, to provide an analysis of whether the project site should be included within the incorporation boundary or annexed to Manteca. These issues have been addressed during the public hearings on incorporation before the Local Agency Formation Commission (LAFCO) and are appropriate in this document only as background information.

CEQA requires that the Lead Agency shall neither approve nor carry out a project for which an EIR has been completed which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects. Possible findings include changes or alterations to the project which avoid or substantially lessen the effect on specific economic, social or other considerations which make infeasible the mitigations identified in the Final EIR. (State EIR Guidelines, Section 15091(a).)

This document is being circulated to local and state agencies and to interested organizations and individuals who may wish to review and comment on the report. Written comments may be received at the San Joaquin County Planning and Building Inspection Department during the 45-day review period. Oral comments will be heard at the public hearing on the Draft EIR. All comments will be addressed in a Response to Comments document which will be incorporated in the Final EIR.

D. ORGANIZATION OF THE EIR

The following section of the Draft EIR (Section II) describes the proposed project. Section III presents a summary of the project impacts, mitigation measures and impact conclusions required by CEQA. Section IV discusses land use and planning policy and Section V is devoted to single impact topics. Within each topic, relevant environmental setting data are presented, the impacts of the proposed project are evaluated, and mitigation measures are suggested. Section VI provides an impact overview to the proposed project relative to beneficial impacts, cumulative and growth-inducing impacts, short-term use versus long-term productivity and irreversible environmental changes. Section VII describes and evaluates alternatives to the proposed project. Section VIII provides a list of organizations and individuals contacted during the preparation of this EIR, as well as the list of preparers.

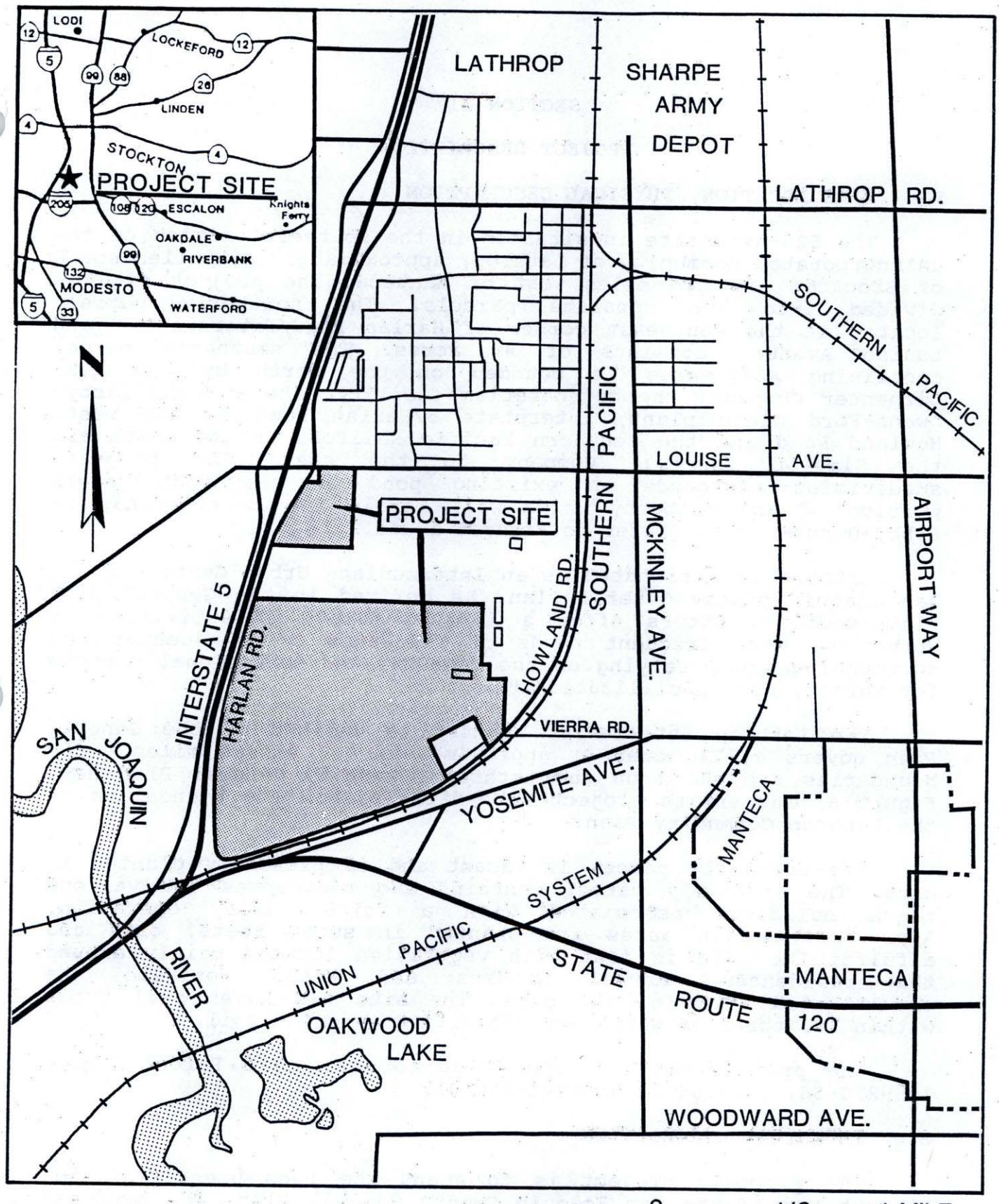

FIGURE 1 PROJECT SITE LOCATION AND REGIONAL SETTING

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SECTION II

PROJECT DESCRIPTION

A. SITE LOCATION, PHYSICAL DESCRIPTION

The 528-acre site is situated in the southern portion of the unincorporated community of Lathrop, approximately six miles south of Stockton and two miles west of Manteca. The project site is divided into two separate parcels. The northerly parcel, located at the southeast corner of Harlan Road/Interstate 5 and Louise Avenue, consists of 44 acres. The southerly parcel containing 484 acres is bounded on the north by the E.R. Carpenter Company, the cogeneration facility site and the Libby-Owens-Ford glass plant, Interstate 5/Harlan Road to the west, Howland Road and the Southern Pacific Railroad to the south and the Simplot Chemical Company to the east. The proposed subdivision surrounds an existing pond in the southeastern portion of the property which will remain in the ownership of Libby-Owens-Ford. (Refer to Figures 1 and 2.)

Lathrop is designated as an Intermediate Urban Center in the San Joaquin County General Plan. As defined in the General Plan "intermediate centers offer a limited number of activities to serve the more frequent needs of residents of the center and surrounding area, relying on the regional and subregional centers for variety and specialization."

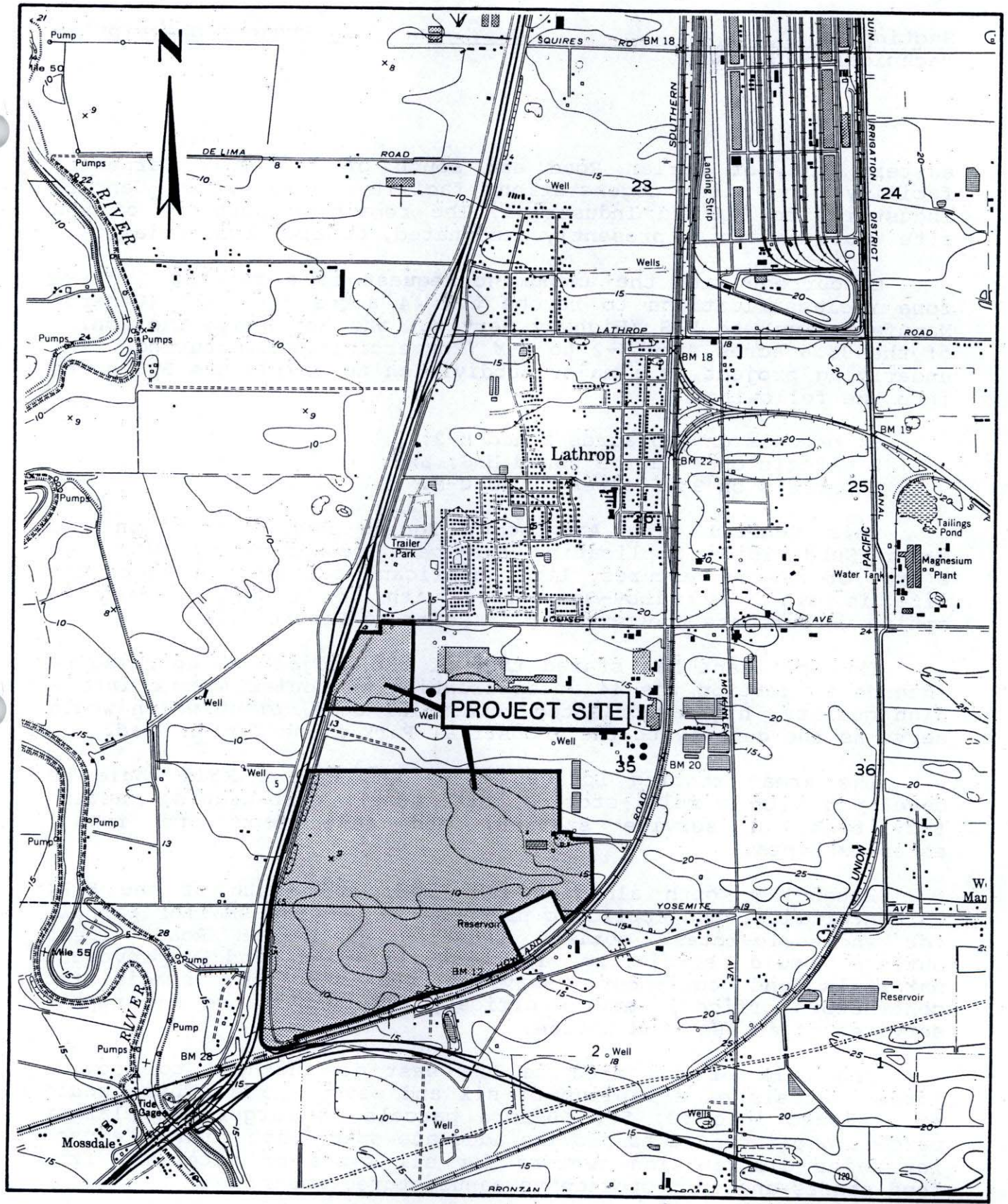
The Lathrop Intermediate Center as defined by the General Plan covers 4,333 acres or approximately 6.5 square miles.[1] The boundaries are shown on the Lathrop Community General Plan Map, Figure 6. The entire project site falls within the boundaries of the Lathrop Community Plan.

The northerly parcel is vacant and is presently planted in oats. The southerly parcel contains two residences and various ranch buildings associated with a former dairy operation. Approximately 475 acres are planted in sugar beets, oats and alfalfa. The site is flat with vegetation located mainly around the residences. Annual grasses and weeds dominate the uncultivated areas of the site. The site has seven soil types within it, three of which are classified as prime soil.

The project site is identified as Assessor's Parcel Number 195-270-56, 241-020-32 and 241-390-01.

B. TECHNICAL DESCRIPTION

The proposed project is to amend the Land Use/Circulation Element Map of the San Joaquin County General Plan. The proposed amendments would change the current land use designation of 44 acres located in the northwest quadrant of the property at the Harlan Road/Louise Avenue intersection from General Industrial to Highway Service; and change approximately 33.6 acres along the



SOURCE: U.S.G.S. 7.5' LATHROP, CA.

FIGURE 2 U.S.G.S TOPOGRAPHIC MAP OF PROJECT SITE

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eastern side of Harlan Road and south of the E.R. Carpenter facility and the cogeneration facility site from General Industrial to Limited Industrial. The remaining portions of the site would remain as presently designated, General Industrial.

Concurrent with the amendment request is a request for two zone reclassifications to rezone the 44 acres from M-2 (General Manufacturing) to H-S (Highway Service) and to change the zoning of the 33.6 acres from M-2 to C-M (Commercial Manufacturing). The underlying project is a major subdivision to divide the 528 acres into the following:

54 parcels on 450 acres zoned M-2;
2 parcels on 44 acres zoned H-S; and
5 parcels on 33.6 acres zoned C-M.

This General Plan Amendment, Zoning Reclassification and Major Subdivision Application has been requested by Mr. John D'Arcy of Kearny Ventures, Ltd., applicant for this project. The site is owned by Libby-Owens-Ford with Mr. D'Arcy holding an option to purchase the property. (Refer to Figure 3.)

The applicant has stated that if the project is approved he intends to develop the 44 acres fronting on Louise Avenue into a high quality, highway-oriented commercial development which would serve as the gateway to the Industrial Park along Harlan Road.

The area fronting Louise Avenue and Harlan Road would be developed with a multi-storied hotel/motel, restaurants, meeting facilities, a service station, and fast food and retail establishments.

Extending south along Harlan Road, and south of the E.R. Carpenter site, the applicant proposes to provide smaller parcels for wholesale-retail outlets fronting on Harlan Road. These outlets would specialize in home building and improvement materials and equipment, services and supplies; specialized contractors offices, service offices, and maintenance and repair services of an assorted nature.

The bulk of the area to the east is intended to provide larger parcels of a minimum of six and seven acres. These could be combined into 40, 50, 60-acre parcels or larger. The larger parcels are intended to provide adequate space with room to expand for major distribution centers for all types of material, from food stuffs and cold storage to manufactured goods.

The applicant is proposing the use of CC&Rs to insure the on-going maintenance of the exterior grounds and buildings. A park management committee will be appointed to enforce compliance of the CC&Rs. A landscaped mound would screen the parking areas.[2]

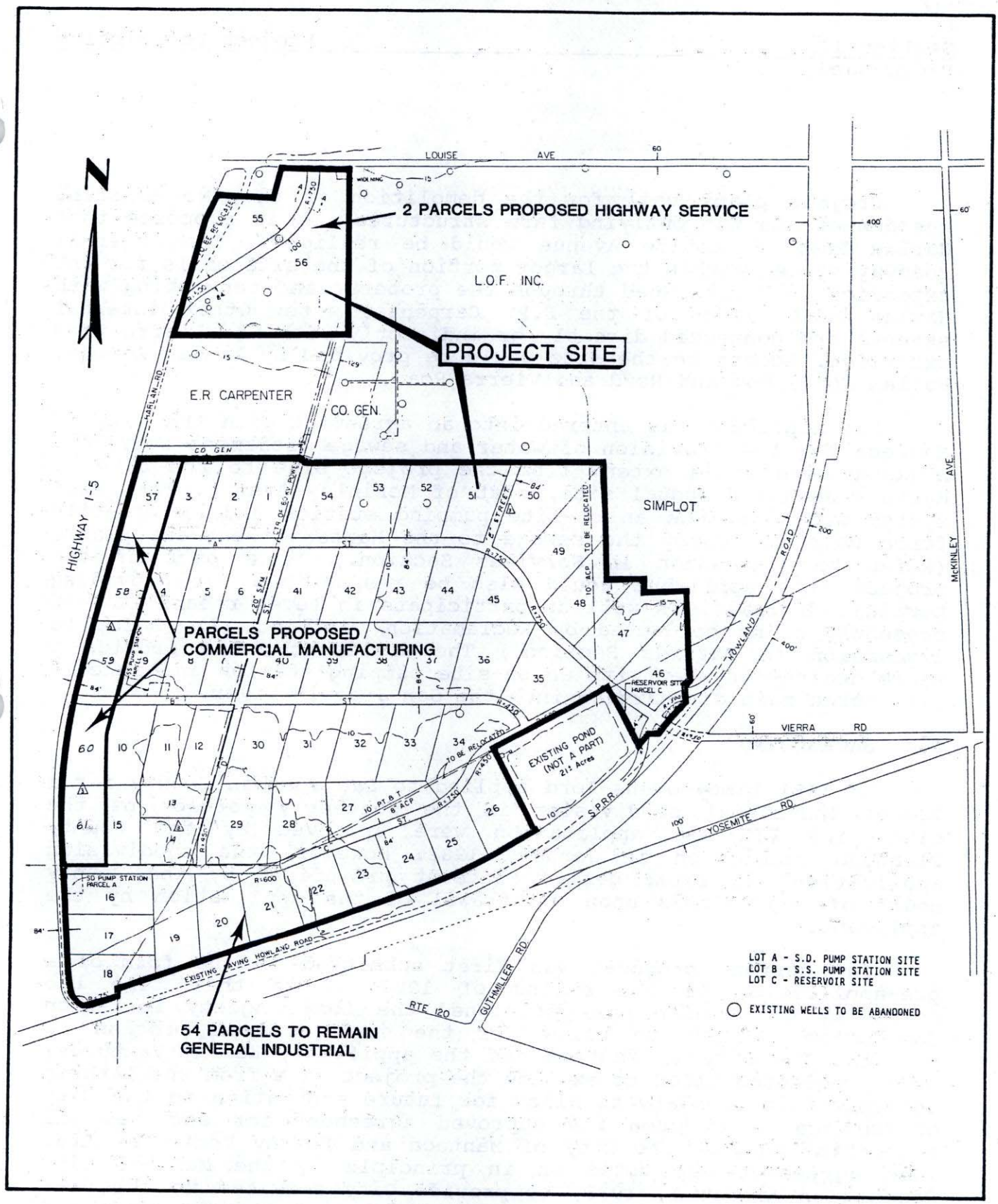

FIGURE 3 PROPOSED GENERAL PLAN DESIGNATIONS AND SITE PLAN

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Project plans call for the demolition of the two existing residences and the outlying farm structures. It is proposed that Harlan Road at Louise Avenue would be realigned. The internal roadway system within the larger portion of the site calls for the extension of Vierra Road through the property and connecting with Harlan Road, south of the E.R. Carpenter site. Other internal streets are connected directly or indirectly with the Vierra Road extension. Access to the site would be provided by Louise Avenue, Harlan Road, Howland Road and Vierra Road.

The applicant has entered into an agreement with the City of Manteca for the provision of water and sewage treatment services. A sewer line would extend from the project site to the City of Manteca sewage disposal site, east of McKinley Avenue. The sewer system would include an on-site pumping station and an off-site force main to convey the sewage to the Manteca treatment plant. (Refer to discussion in Services Section.) As a part of the project, the applicant would also be responsible for providing terminal drainage, as well as participate in levee rehabilitation presently being conducted by Reclamation District 17. (Refer to discussion in Hazards Section.) The applicant would provide a storm drainage system with an on-site pumping station and an off-site force main discharging into the San Joaquin River.

C. BACKGROUND

In 1981 Libby-Owens-Ford applied to San Joaquin County for a 78-lot industrial subdivision in the southerly portion of the site. The EIR and application were approved by the County Planning Commission in January 1982. However, the subdivision application was later denied "without prejudice" by the County Board of Supervisors upon withdrawal of the application by the applicant.

The current proposal was first submitted in the form of a pre-application in the spring of 1987. Since that time the community of Lathrop has petitioned the Local Agency Formation Commission (LAFCO) to allow for the incorporation process to proceed. The City of Manteca and the applicant, Kearny Ventures, Ltd., requested LAFCO to exclude the project site from the Lathrop incorporation boundary to allow for future annexation to the City of Manteca based upon the approved agreement for services and annexation between the City of Manteca and Kearny Ventures, Ltd. This agreement was voted on in principle by the Manteca City Council on August 1, 1988, to provide City services to the 528-acre project site. The City would initially provide water and sewer service prior to annexation in an effort to guarantee the long and short-term success of the project. The applicant would be required to pay a premium price for the services until such time that the site is annexed to the City. At that time charges would reflect customary costs as charged to other City businesses.

Also included in the agreement with the City is that the applicant would provide the City with a new fire engine, fire station, police car and grade separation if the property should be annexed.

The LAFCO staff report of January 6, 1989, determined that exclusion of this property from the incorporation boundary would "haphazardly divide the industrial area." "The result would be a poor interface boundary between two cities" with the proposed boundary better promoting "a planned, orderly, efficient provision of City services."[3] LAFCO staff further stated that even though the City of Manteca would "provide out-of-city service to the Kearny site, this is not inconsistent with the incorporation [in that] all normal city services would be provided." On January 6, 1989, LAFCO upheld the staff recommendation and voted unanimously to allow the incorporation process to proceed.

The City of Manteca requested LAFCO to amend their sphere of influence to incorporate the project site. LAFCO ruled on January 20, 1989, that the city proposal was in conflict with the Lathrop Incorporation since the Secondary Growth Boundary, identified in the city's General Plan, overlapped the incorporation boundary.[4] Whenever two applications before the Commission conflict, Government Code, Section 56827, provides for the Commission to determine the relative priority for conducting any further proceedings. Since the Lathrop Incorporation has been approved by the Commission, it was the Commission's determination not to consider any portion of the territory designated within Manteca's amended sphere of influence until such time that the incorporation proposal is resolved.

LAFCO received two applications requesting amendments to the earlier incorporation approval. On February 24, 1989, the commission voted to uphold their earlier resolution and denied these applications.

On March 7, 1989, the Board of Supervisors conducted a protest hearing for the citizens residing within the proposed incorporation boundary to have an opportunity to voice their objections to incorporation. No official protest was filed at that meeting. Thus, the election to vote on incorporation will be held on June 6, 1989.

Two lawsuits have been filed in an attempt to prevent incorporation of the Lathrop community as presently defined. If the litigants are successful in obtaining an injunction, the community may not have an opportunity to vote in June on the incorporation proposal.

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1 Executive Officer's Report, San Joaquin County Local Agency Formation Commission, Commission Meeting, January 6, 1989.

2 Information taken from the San Joaquin County Environmental Information Form, Part B, Attachment 2, dated April 4, 1988, provided by John D'Arcy, applicant.

3 Ibid., LAFCO, January 6, 1989.

4 Executive Officer's Report, San Joaquin County Local Agency Formation Commission, Commission Meeting, January 20, 1989.

SECTION III

SUMMARY OF PROJECT DESCRIPTION, ALTERNATIVES, ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. PROJECT DESCRIPTION

The 528-acre site is situated in the southern portion of the unincorporated community of Lathrop, approximately six miles south of Stockton and two miles west of Manteca. The project site is divided into two separate parcels. The northerly parcel, located at the southeast corner of Harlan Road/Interstate 5 and Louise Avenue, consists of 44 acres. The southerly parcel contains 484 acres and is bounded on the north by the E.R. Carpenter Company, the cogeneration facility site and the Libby Owens Ford glass plant, Interstate 5/Harlan Road to the west, Howland Road and the Southern Pacific Railroad to the south and the Simplot Chemical Company to the east. The proposed subdivision surrounds an existing pond in the southeastern portion of the property which will remain in the ownership of Libby Owens Ford. (Refer to Figures 1 and 2 in the text of the EIR.)

The northerly parcel is vacant and is presently planted in oats. The southerly parcel contains two residences and various ranch buildings associated with a former dairy operation. Approximately 475 acres are planted in sugar beets, oats and alfalfa. The site is flat with vegetation located mainly around the residences. Annual grasses and weeds dominate the uncultivated areas of the site. The site has seven soil types within it, three of which are classified as prime soil.

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B. ALTERNATIVES TO THE PROPOSED PROJECT

The following is a brief description of the four alternative development scenarios to the proposed project:

1. No Development: This alternative assumes that no future development activity on the site would occur. With the No Development alternative, present conditions would remain the same as they are presently.

2. Project in Conformance with General Plan (All General Industrial): Under this alternative, development of the entire site would proceed according to the present General Plan land use designation of General Industrial. No Highway Service or Commercial Manufacturing would be included in this alternative.

3. Modified Project (All Limited Industrial Uses): This alternative assumes development of the site under the General Plan Land Use designation of Limited Industrial and Zone Classification of Restricted Manufacturing. No Highway Service or Commercial Manufacturing uses would be included in this alternative.

4. Alternative Site: This alternative assumes development of the Highway Service component of the proposed project at an alternative location.

C. ENVIRONMENTAL IMPACTS AND MITIGATIONS

The following table presents a summary of the project's potentially significant environmental impacts and mitigation measures which would eliminate or reduce such impacts to a level of insignificance. The table also identifies significant impacts on the environment which cannot be mitigated to an acceptable level. Also included on this table is a summary of the impacts and mitigations identified for each of the four project alternatives.

The following definition is provided to help clarify the concept of Significant Effects, as required by the California Environmental Quality Act (CEQA), as amended. It is taken from the CEQA Guidelines, 1986.

"Significant Effect on the Environment" is defined in Section 15382 of the State CEQA Guidelines. It means:

> A substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and object of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

The significant unavoidable adverse impacts identified in an EIR (CEQA document) require the Lead Agency and each Responsible Agency to make a finding (CEQA Guidelines, Section 15091 and Public Resources Code, Section 21083 and 21087) for each significant unavoidable adverse impact, and a statement of overriding considerations (CEQA Guidelines, Section 15093) for the project, if approved.

The responsibility for implementing the mitigation measures has been identified throughout the summary. Many of the mitigation measures will require a follow up monitoring program to ensure the significant impacts have been mitigated to an acceptable level.

SECTION III

SUMMARY TABLE

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
PROPOSED PROJECT		
Land Use and Planning Policy		
1. Development of the project site would convert 528 acres of agricultural land, including approximately 130 acres of prime soil. This is considered an irreversible impact for which there is no effective mitigation.	In an effort to minimize the cumulative loss of agricultural land in the County, the Board of Supervisors may consider one or all of the following recommendations. (Board of Supervisors)	
	- Protect other existing farmlands of equivalent or better quality through the use of Williamson Act contracts.	No
	- Investigate other direct and indirect farmland protection alternatives such as public or County purchase, or donation of development rights.	No

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
	- Consider farmland trusts which can be used effectively to preserve agricultural land.	No
2. The proposed project would cause levels of service at six intersections to drop below LOS "C" and would not be consistent with Roads and Streets Principle #5 of the Land Use and Circulation Element of the County General Plan.	All traffic mitigations recommended in Section V.A. should be conditions of project approval to bring the project into conformance with Principle #5. (County and Applicant)	Yes
<u>Traffic</u>		
1. Added project traffic would have measurable impacts on mainline freeway traffic and the following seven intersections:	The following mitigations would be required for the seven intersections: (County and Applicant)	
- Louise/I-5 southbound ramps	Signalize and widen intersection.	Yes
- Louise/I-5 northbound ramps	Signalize and widen intersection.	Yes
- Louise/Howland-7th	Signalize intersection.	Yes
- Louise/Airport	Signalize and widen intersection.	Yes
- Guthmiller/SR 120 eastbound off-ramps	Signalize intersection.	Yes
- Airport/SR 120 eastbound ramps	Signalize intersection.	Yes
- McKinley/Vierra-Yosemite	Realign, signalize and widen intersection.	Yes

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
2. The added project traffic would have a measurable impact on peak hour weaving operations on I-5 south of the SR 120 junction.	Adopt a Transportation System Management (TSM) program for the proposed project to reduce project-generated traffic. (See Traffic Section for details.) (County)	Yes
Air Quality		
1. The proposed project would have less-than-significant impacts on regional and localized air quality; however, given significant regional conditions, this impact is considered significant.	See traffic mitigations for proposed project. In addition the number and design of new drive-up window facilities should be limited. (Applicant)	Yes
Services and Utilities		
Sewage		
a. Lathrop County Water District		
1. Currently LCWD does not have treatment capacity to serve the site.	Additional capacity must be purchased from the City of Manteca to serve the site, however, this may not be a realistic solution. (Applicant, LCWD)	No
b. Manteca		
1. Manteca can only provide 75,000 g/d from the phase I expansion, leaving 43,000 g/d for other development. When this is	Additional data should be made available by the City to better evaluate the amount of excess	Maybe

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
committed the plant will be at capacity and a building moratorium will result until phase II is completed. The remaining allotment for the project will come from phase II and III expansion.	treatment plant capacity allocated to other approved projects. (City of Manteca)	
2. Manteca may have under-estimated the GPD allotted from the phase III expansion by 217,000 GPD.	Higher sewage flows should be used for the phase III expansion to estimate the project's contribution. (City of Manteca)	
Water		
a. Lathrop County Water District		
1. The groundwater supply may be adversely affected with the increased demand for water.	Monitoring wells should be established concurrently with development. If it is shown that the groundwater supply is affected the following measures should be implemented:	
	- Establish strict water conservation measures. (Applicant, LCWD)	Yes
	- Develop new wells further from the Delta channels. (LCWD)	Yes
	and/or	

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
	- Enter into negotiations for a sustainable long-term surface water source. (LCWD)	Yes
	Groundwater monitoring should be entered into the County's groundwater model to predict long-term effects. (LCWD, County)	Yes
	A joint agreement should be entered into between LCWD, Manteca and the County establishing maximum draw on the groundwater basin and establishing a regional growth policy in keeping with the limited groundwater reserves. (LCWD, City of Manteca)	Yes
b. Manteca		
1. The water supply may be inadequate to meet fire flow requirements.	The City should complete the improvements identified in the 1987 addendum to the Master Plan prior to serving a remote industrial subdivision. (City of Manteca)	Yes

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
Fire Protection		
1. The demand for fire protection services provided by the Manteca-Lathrop Rural Fire District would be increased by 25 percent. Existing manpower and equipment would have to be upgraded to continue providing an adequate level of fire protection services.	The applicant would be assessed a one-time fee under the recently enacted Fire Facilities Fee Ordinance to fund the necessary expansion of facilities. Additional personnel would be funded through property taxes. (Applicant)	Yes
2. The proposed on-site storage tank capacity of 500,000 gallons is considered by the Fire District to be minimal for this size project.	Prior to approval of the Final Development plan for the proposed project, the Fire District should coordinate with the agency providing water services to the site to ensure that the on-site storage tank has adequate capacity to meet the fire protection needs of the project. (Fire District, Applicant)	Yes

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
Law Enforcement		
1. The proposed project would significantly increase the demand for law enforcement services. The Sheriff's Department estimates that existing beat coverage would have to be upgraded with one additional full-time position to serve the proposed project.	The Sheriff's Department is recommending that the County Board of Supervisors establish a funding mechanism for providing the additional resources necessary to serve the proposed project. If this is not accomplished the impact on the Sheriff's Department would be significant. (County Board of Supervisors)	Yes
Hazards/Nuisances		
Hazardous/Toxic Wastes		
1. The proposed project could conflict with on-going remediation in the southern portion of the site by: (1) limiting access to and from the operation of the groundwater extraction system, and (2) limiting the possibilities for installation of additional extraction wells.	Appropriate easements should be granted and/or retained for access to and operation of the existing groundwater extraction system and monitoring wells connected with the Occidental Chemical site clean-up effort. (Applicant)	Yes

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
2. A possible risk exists with the presence of hazardous materials in surface soils and storage areas on the adjoining sites which may be mobilized and transported across property lines during flood conditions. Existing and potential future hazardous material releases on adjoining properties could be brought into contact with people on the project site.	Drainage improvements should be installed in accordance with the recommended mitigation measures outlined in the Flooding Section of this report, to eliminate on-site ponding and prevent transport and spreading of hazardous materials that may spill or accumulate at adjoining industrial sites. (Applicant)	Yes
3. The volatile chemical contaminants detected in the soils and/or groundwater beneath the southern portion of the project site may pose a potential risk to occupants of enclosed buildings.	Building sites known or suspected of being situated over soils or groundwater contaminated with volatile organic chemicals should either be: (a) remediated by removal of the contaminants; or, (b) designed in a manner to prevent volatile chemicals from entering and collecting in an enclosed building air spaces via seeps through the foundation. (Applicant)	Yes

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
Flooding		
1. Development of the site will result in exposure of people and property to flood hazards. The significant increase in impervious surface area will increase flooding problems unless appropriate measures are taken to control and dispose of stormwater runoff.	The applicant should contribute funds toward the reconstruction of levees along the San Joaquin River. Such improvements are currently being proposed by Reclamation District No. 17. (Applicant)	Yes
	The sizing of the project's stormwater detention ponds to be used in conjunction with the terminal drainage system and the capacity of the pumps should be designed without any allowances	Yes

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
	for percolation and using a minimum design storm equal to a 10-year, 24-hour event. (Applicant)	
	Any on-site stormwater detention ponds should maintain a minimum separation of 5 feet between the bottom of the pond and the groundwater or seasonally high groundwater. (Applicant)	Yes
	The on-site pumping station, in conjunction with any storage volume, should protect the site from flooding as a result of the design storm. In addition, the pumps should be capable of emptying the detention ponds within 48 hours. (Applicant)	Yes
Noise		
1. Highway Service uses would be located in the north and west portions of the project site where existing and future noise levels exceed County standards for residential uses (transient lodging, hotels, motels).	A detailed noise analysis should be conducted when architectural plans for the highway service uses are available. The project should include sound attenuation measures for reducing interior noise levels of the hotels and motels or other noise sensitive uses in the Highway Service area. (Applicant)	Yes

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?

ALTERNATIVES TO THE PROPOSED PROJECT

NO DEVELOPMENT

Land Use

There are no land use impacts associated with this alternative.	No mitigations are necessary.

Traffic

Traffic conditions in the project area would not be affected.	No mitigations are necessary.

Air Quality

Air quality conditions in the project area would remain unaffected, or would be improved due to improved vehicle emission controls and local steps toward improving County-wide air quality through implementation of the Air Quality Maintenance Plan.	No mitigations are necessary.

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
Public Services and Utilities		
No additional demand for water, sewer, law enforcement and fire protection services would be generated.	No mitigations are necessary.	
Hazards		
The project site would be subjected to 100-year floods from the San Joaquin River.	Without development of the site, no mitigations are necessary.	
Remediation efforts for the adjacent toxic waste site would be unaffected.	No mitigations are necessary.	
PROJECT IN CONFORMANCE WITH GENERAL PLAN (ALL GENERAL INDUSTRIAL)		
Land Use		
Land use impacts would be similar as those for the proposed project.	See recommended mitigations for the proposed project.	No
Traffic		
The added project traffic from this alternative would be similar to the proposed project.	See mitigations recommended for the proposed project.	Yes

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
Air Quality		
The elimination of Highway Service uses would reduce local CO emissions by reducing the total idling time and slower vehicle speeds in the project vicinity.	See air quality mitigations recommended for the proposed project.	Yes
Public Services and Utilities		
Sewer and Water		
Impacts would be similar as those identified for the proposed project.	See mitigations recommended for the proposed project.	Yes and No
Fire Protection		
The overall increase in demand for fire protection services would be reduced by 10 percent when compared with the proposed project due to the elimination of Highway Service uses.	See mitigations recommended for the proposed project.	Yes

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
Law Enforcement		
Elimination of the Highway Service uses would also reduce the demand for law enforcement services. However, site development would still require that existing coverage be upgraded.	See mitigations recommended for the proposed project.	Yes
Hazards/Nuisances		
Hazardous Materials and Flooding		
Impacts would be similar as those identified for the proposed project.	See mitigations recommended for the proposed project.	Yes
Noise		
Noise impacts would be eliminated with this alternative since no hotels or motels would be allowed in a General Industrial zone.	No noise mitigations would be necessary.	

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
MODIFIED PROJECT (LIMITED INDUSTRIAL USES)		
Land Use		
Impacts would be similar as those identified for the proposed project.	See mitigations recommended for the proposed project.	No
Traffic		
This alternative would generate 25 percent less traffic than the proposed project.	See mitigations recommended for the proposed project.	Yes
Air Quality		
The 25 percent reduction in traffic would proportionally reduce air pollutant emissions. No permitted uses under the R-M zone would require special permits from the Local Air Pollution Control District.	See mitigations recommended for the proposed project.	Yes
Services/Utilities		
Sewer/Water		
Sewer and water impacts would be similar as those identified for the proposed project.	See mitigations recommended for the proposed project.	Yes/No

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
Fire Protection		
The increased demand for fire protection services would be reduced by approximately 10 percent when compared to the proposed project due to the elimination of Highway Service use.	See mitigations recommended for the proposed project.	Yes
Law Enforcement		
Elimination of the Highway Service use would also reduce the demand for law enforcement services. However, site development would still require that current resources be upgraded.	See mitigations recommended for the proposed project.	Yes
Hazards/Nuisances		
Hazardous Materials/Flooding		
Impacts would be similar as those identified for the proposed project.	See mitigations recommended for the proposed project.	Yes

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
Noise		
Noise impacts would be eliminated since no hotels or motels would be allowed in a Limited Industrial zone.	The noise mitigations identified for the proposed project would not be necessary.	N/A
ALTERNATIVE SITE		
Land Use		
Approval of the proposed highway serving commercial use at the Del'Osso site would result in the loss of 50 acres of prime agricultural land.	There are no mitigations for the loss of prime agricultural land.	No
Land use conflicts would occur due to the proximity of agricultural uses at the Del'Osso site.	Mitigations would be necessary to reduce land use conflicts.	No
Traffic		
Added traffic from this alternative would cause long delays to side street vehicles on the I-5 underpass at Manthey Road and Mossdale Road.	Mitigations would be necessary to improve service levels on affected roadways.	Yes
The weaving operations on I-5 south of SR 120 would be aggravated with development of the Del'Osso site.	Refer to mitigation discussion in the Traffic Section.	Yes

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
Air Quality		
Impacts would be similar as those identified for the proposed project.	See mitigations recommended for the proposed project.	Yes
Public Services		
On-site water, sewer and storm drainage systems would be required at the alternative site.	Mitigations would be required for impacts associated with use of these systems.	Yes
This alternative would increase the demand for fire protection services to the same extent that the H-S use would if developed at the proposed project site. Emergency response times to the alternative site would be slightly longer than those for the proposed project site due to its distance from Station 1.	See mitigations recommended for the proposed project.	Yes
Development of H-S uses at the alternative site would increase the demand for law enforcement services. Upgrading beat coverage in the area would be necessary.	See mitigations recommended for the proposed project.	Yes

Potentially Significant Impacts	Suggested Mitigation Measures	If implemented will impact be mitigated to an acceptable level?
Hazards/Nuisances		
Hazardous Materials/Flooding		
The alternative site is within the 100-year flood plain. Site development would be subject to the same flood risks as the proposed project.	See mitigations recommended for the proposed project.	Yes
There is no known public risk of exposure to hazardous materials at the alternative site.	Mitigation measures identified for the proposed project would not be necessary at the alternative site.	N/A
Noise		
The alternative site is located adjacent to I-5. Hotel and motel uses in the H-S area would be subject to noise levels in excess of County standards for transient occupancy residential uses.	See mitigations recommended for the proposed project.	Yes
Growth Inducement		
Development of the site would have greater growth-inducing impacts than the proposed project.	Additional mitigation measures would be necessary to reduce growth-inducing effects.	No

SECTION IV

LAND USE AND PLANNING POLICY

A. LAND USE

1. Environmental Setting

The community of Lathrop has been identified as an intermediate center in the County's General Plan Land Use/Circulation Element. Intermediate centers offer a limited number of services to serve the frequent needs of the community. Residents of these centers must rely on the regional and subregional centers for a variety of specialization. The community encompasses approximately 6.5 square miles with a population of approximately 4,961 residents.[1] Residential development in Lathrop has been increasing with an estimated 1,949 units approved or proposed within the Lathrop community. The community is currently undergoing an incorporation drive with voting to occur in early June 1989.

As shown in Figure 4 the project site is bordered by a mix of residential and industrial land uses. Agriculture is the dominant land use west of I-5, while land uses south of the Southern Pacific Railroad are a mix of agriculture, manufacturing and commercial manufacturing. Libby-Owens-Ford, Simplot Chemical and the E.R. Carpenter Warehouse facility are the three dominant land uses in the project vicinity. Residential development extends along Louise Avenue between I-5 and McKinley Avenue, consisting primarily of single-family homes with the exception of a mobile home park located west of Bizzibe Avenue. The cogeneration plant is tentatively scheduled to begin construction in late spring-early summer of 1989. This is proposed directly adjacent to the E.R. Carpenter site.

Two residences, a vacant mobile home and various farm structures currently occupy the site. The site has been extensively used for agriculture with a dairy operation previously occupying the remaining farm structures. Approximately 450 acres of the site are currently leased by Libby-Owens-Ford to a local grower. Crops presently under cultivation include 211 acres of oats, 174 acres of alfalfa and 142 acres of sugar beets.[2] Based upon the County's 1987 Agricultural Crop Report, the total acreage in production at the project site represents .08 percent of the total harvested acreage under production in 1987 in San Joaquin County.

The topography in the area is relatively flat with slopes ranging from 10 to 20 feet above sea level. Seven soil types are found on the site. These consist of Merritt silty clay loam, Manteca fine sandy loam, Scribner clay loam, Veritas fine sandy loam, Tinnin loamy coarse sand, Tinnin loamy sand and Delhi loamy sand. Of the seven soil types, three are considered prime soils. These are: Merritt silty clay loam, Scribner clay loam and

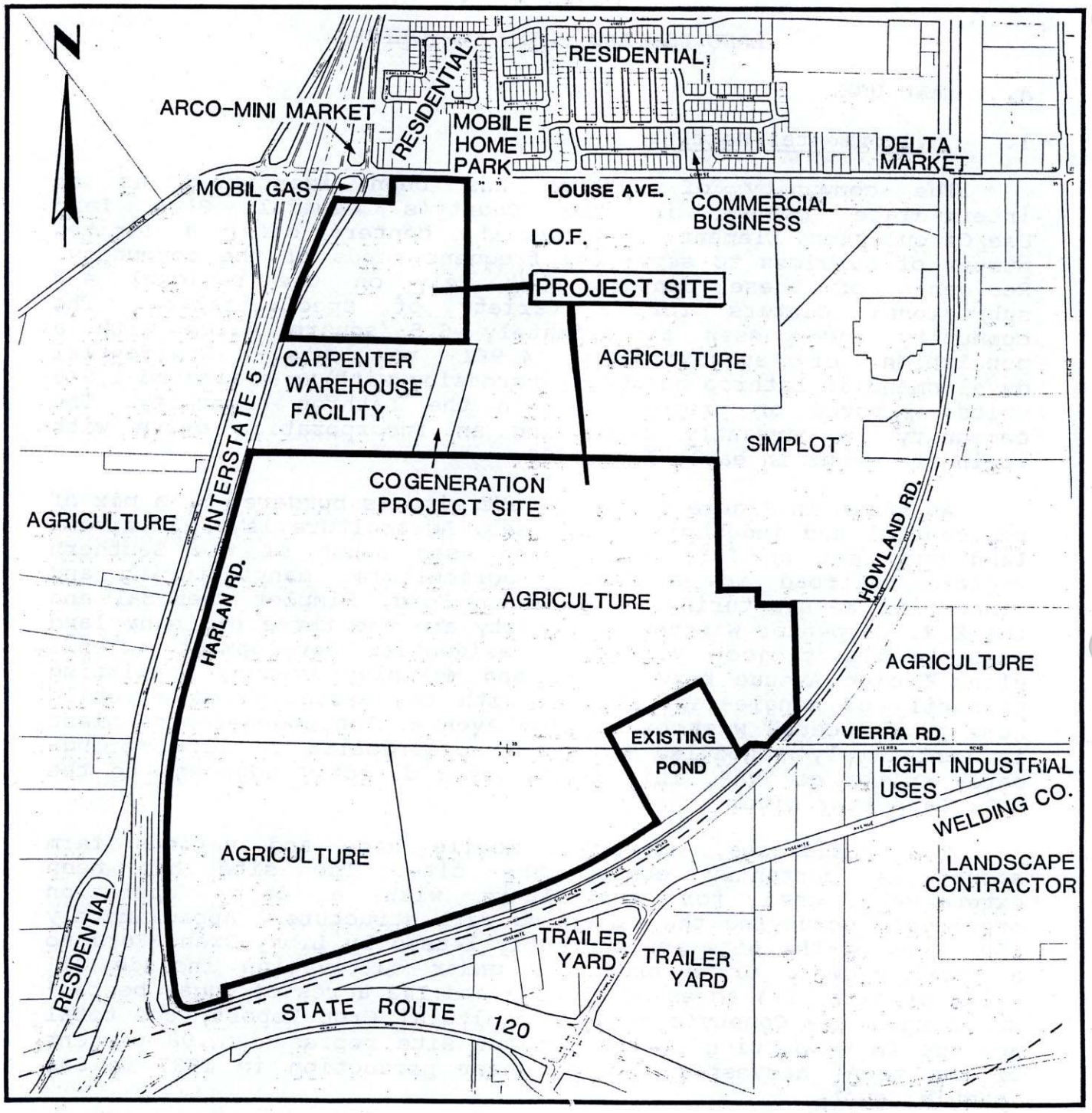

FIGURE 4 EXISTING LAND USES

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Veritas fine sandy loam.[3] Based upon the Soil Conservation Service soils map of the project site, approximately 130 acres have been identified as prime soil.

2. Environmental Impacts

As discussed above, the project site is an island of agricultural production surrounded on three sides by urban land uses and separated from intense agriculture by I-5 and the Southern Pacific Railroad. Raised elevations for the freeway and railroad create an effective buffer between the project site and agricultural operations to the west, south and southeast.

The location of the site in close proximity to industrial and urban land uses, coupled with the land use designation identified in the Lathrop Community Plan, indicate eventual development of this property. Furthermore, development of the site could be considered infill in light of its General Plan designation and its close proximity to intense industrial land uses. Additionally, development of land designated for an urban-type use would preclude this particular proposal from utilizing agricultural designated land elsewhere in the County.

However, these factors do not diminish the value of the site as a viable agricultural operation. Development of the property would convert approximately 517 acres of agricultural land, including approximately 130 acres of prime soil. This is considered an irreversible impact for which there is no effective mitigation. The conversion of this land would remove approximately .08 percent from the County's overall harvested acreage (based on 1987 figures). The total value of the three crops presently under cultivation would amount to $254,932 (based on 1987 figures).

It is unlikely the proposed development would encourage similar application requests in light of the physical barriers along the west, south and southeast boundaries separating the subject property from the intensively farmed lands. The barriers provide an adequate separation from the productive farmlands in that land use conflicts associated with noise, dust, odors, trespassing, vandalism and effects of chemical drift are not likely to occur.

3. Suggested Mitigation Measures

In an effort to minimize the cumulative loss of agricultural land in the County, the Board of Supervisors may consider one or all of the following recommendations.

- Protect other existing farmlands of equivalent, or better quality, through the use of Williamson Act contracts.

- Investigate other direct and indirect farmland protection alternatives such as public or County purchase, or donation of development rights.

- Consider farmland trusts which can be used effectively to preserve agricultural land.

B. MARKET ANALYSIS

1. Introduction

Under Section 15131 of the California Environmental Quality Act, economic or social information may be included in an EIR, however, the economic or social effects of a project shall not be treated as significant effects on the environment. For purposes of assessing the appropriateness of amending the General Plan to allow highway service and commercial manufacturing land uses at the site, a market analysis was undertaken. The intent of this analysis is to guide decision makers in determining the appropriateness of permitting highway service and commercial uses at the project site.

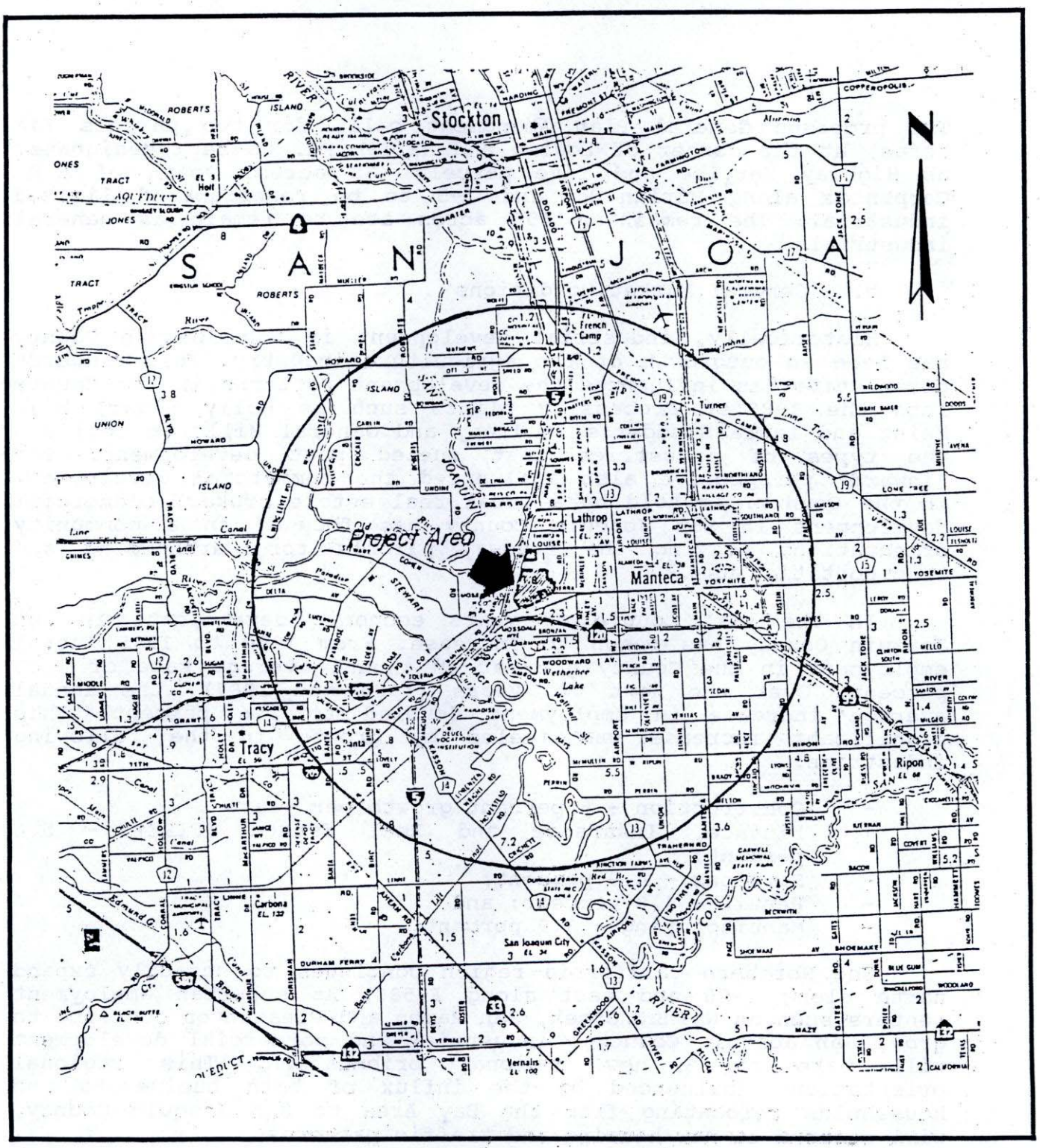
The following section evaluates the market conditions for industrial, highway service and commercial uses in the County and at the project site. The appropriateness of establishing highway commercial and other service uses on the site are evaluated with respect to the competitive supply for these uses in the market area. While the forces affecting the demand for highway service and industrial uses on the site come from the entire region, this supply-based analysis concentrates on the market area defined by a 6-mile radius around the site (refer to circle on Figure 5).

2. Physical Setting, Market and Supply Conditions

a. Physical Setting

The project site, situated between the I-5/SR120 interchange and the I-5/Louise Avenue exit, has some of the best regional access in San Joaquin County. As shown on Figure 5, the County's north-south freeways (I-5 and US 99) and east-west freeways (I-205 and SR 120) are adjacent or extremely close to the site. The site is within 10 to 15 miles of Stockton, Tracy, Manteca and Modesto, the major population centers of the San Joaquin Valley, and 60 to 90 miles of San Francisco, Oakland, San Jose and Sacramento, the major population centers of Northern California.

The project area has three existing developments and one planned project: the E.R. Carpenter Company manufactures various foam products; Libby-Owens-Ford manufactures glass products; J.R. Simplot manufactures agricultural chemicals; and there are plans for a cogeneration plant adjacent to the E.R. Carpenter facility.



SOURCE: EPS

FIGURE 5 MARKET AREA MAP

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The proposed General Plan Amendment calls for two parcels (44 acres) at the corner of Louise and Harlan Rd. to be redesignated as Highway Service and five parcels (33 acres) south of E.R. Carpenter along Harlan Rd and I-5 to be redesignated limited industrial. The remaining 455 acres are to remain as general industrial.

b. General Market Conditions

Historically, industrial development in San Joaquin County has been an outgrowth of the agriculture industry. This "inward" perspective has influenced the development patterns in the County into the 1980's. Processing plants such as Holly Sugar, H.J. Heinz and Laura Scudder's in Tracy and General Mills in Lodi are the types of industries that fueled past development. The "inward" perspective also influenced the commercial development in the County. As told by a local real estate broker, commercial development in San Joaquin County has focused on a community orientation, leaving the freeway parcels for warehousing and transportation use.[5]

In the last couple of years economic development in San Joaquin County has begun to increase. From 1980 to 1985, total employment in the County grew at an annual average rate of 1.35 percent. Over the next two years (1986 and 1987), the annual average increase in employment doubled to 3.6 percent. This significant increase was fueled by growth in the following industries:

- Construction - 6 percent growth per year;
- Finance, Insurance and Real Estate (FIRE) - 5.6 percent;
- Services - 4.9 percent;
- Retail - 4.8 percent; and
- Manufacturing - 3.9 percent.

The Northern California region continues to steadily expand north along I-80 and east along I-580. As suburban employment centers such as Walnut Creek, San Ramon and Pleasanton continue to grow, San Joaquin County's industrial and commercial development will take on a new regional orientation. This regional orientation, influenced by the influx of both businesses and households relocating from the Bay Area to San Joaquin County, will respond to new housing and traffic patterns.

Since the large-scale residential developments in Lathrop, Manteca and south Stockton (Weston Ranch) are likely to attract a large percentage of buyers employed in the Bay Area and corresponding traffic flows along I-5 and SR 120 are projected to increase, new commercial development will begin to take advantage of the locational attributes of interchange parcels. In a similar

fashion, the sales/service firms who provide service to both the local and regional business community will take advantage of the exposure they can gain with excellent freeway visibility. The tenants in the recently developed Drew Business Park along I-205 are prime examples of the types of businesses leading the emergence of the new regional orientation in San Joaquin County.

While employment data for 1988 is not yet available, a cursory review of the types of businesses who have either recently moved or announced plans to relocate to the County indicate that San Joaquin County is continuing to experience healthy commercial and industrial growth. The wholesale and distribution divisions of Safeway, Toys-R-Us, Weyerhaeuser Corporation, Yellow Freight, Market Wholesale Grocery Inc. and Owens-Corning Glass are some of the major corporations who have chosen to locate in the County.

In addition to these major corporations, various manufacturing and service firms have recently relocated to San Joaquin County. Many of these new businesses have chosen to move to the San Joaquin Valley because of the rising cost of production in the Bay Area, driven by traffic congestion, higher labor costs and higher land costs. Table 2 lists some of the firms who have recently moved to or expanded in the County.[6]

A recent newspaper article[7] described a locational analysis conducted by Market Wholesale Grocery Inc. that exemplifies the locational attributes of San Joaquin County and the project site. The distribution area analysis, referred to as a "centroid" study, factored in the volume of stores, drive times and highway conditions so as to identify the exact center of their distribution area. The results identified Lodi as the center, but the company decided on Tracy because it is closer to the interstate freeway system. Findings such as these will continue to influence distribution firms to relocate to San Joaquin County as the Bay Area congestion and the Central Valley economic expansion progresses.

c. Supply Conditions

Table 3 outlines an inventory of vacant land-by-land use designation in Lathrop (excluding the Southern Pacific Railroad sites) and Manteca. The inventory is based on the existing land use designations in the County General Plan and does not include land west of I-5. In summary, there are approximately 5 acres of vacant highway service land in Lathrop and 150 in Manteca, 50 acres along I-5 at Mossdale, 12.5 acres at the northern edge of the market area and two other small parcels (one acre or less) along I-5 near I-205; 40-50 acres of vacant general commercial land in Lathrop and 69 in Manteca; and 140 acres of vacant industrial land in Lathrop and 42 in Manteca.

TABLE 2

COMPANIES WHO HAVE RECENTLY MOVE TO OR EXPANDED IN SAN JOAQUIN COUNTY

COMPANY	BUILDING SPACE (Square feet)	LOCATION	CITY
Certified Grocers of California	450,000	1990 N Picolli Road/US 99/US 88	Stockton
J & R Warehouses & Service	300,000	Up Central Valley Indstrl Park	Stockton
Toys "R" Us - district center	290,000	West Charter Way Indstrl Park	Stockton
Toys "R" Us - dist center addtn	150,000	West Charter Way Indstrl Park	Stockton
Dupac Manufacturing	125,000	Airport Business Center/US 99	Stockton
General Mills	110,000	2000 West Turner Road	Lodi
Minton Window Company	100,000	US 99/Frontage St/Thurmond St	Lodi
Duraflame - warehouse	100,000	1100 South Airport Way	Stockton
Dorfmann-Pacific	100,000	Airport Business Center/US 99	Stockton
Weyerhaeuser Corporation	90,000	Hwy 4 West/Army Court	Stockton
Technotrim	80,000	Triangle Indstrl Park/US 99	Stockton
Cal Cushion	80,000	1303 East Pine Street	Lodi
Wallace Computer Services	70,000	South Stockton Street	Lodi
Donn Corporation	70,000	Loomis Avenue/US 99	Stockton
Stanton Industries	70,000	Airport Business Center/US 99	Stockton
Owens-Corning - district center	60,000	Hwy 4 West/Army Court	Stockton
Lifetile Corporation	60,000	Roth Road/I 5	Stockton
Wood Fiber Products	60,000	Locke Road	Lockeford
Calva Products	60,000	US 99 North/Woodbridge Road	Lodi
Motor Guard Corporation	50,000	Manteca Indstrl Park/Hwy 120	Manteca
Computerland Corporation	50,000	Airport Business Center/US 99	Stockton
Owens-Corning - warehouse	50,000	Airport Business Center/US 99	Stockton
Lazerlite/Fiat	50,000	Airport Business Center/US 99	Stockton
Morrison-Knudsen/Dutra	40,000	West Weber Ave/Turning Basin	Stockton
Fresh Start CFS/McDonalds	40,000	900 Shaw Road/US 99/Hwy 26	Stockton
Ran-Rob Inc.	35,000	Larch Clover/N Tracy Blvd	Tracy
Sumiden Wire/Sumitomo Electric	30,000	El Pinal Indstrl Park/West Lane	Stockton
American Sunny Foods/Numano	30,000	Triangle Industrial Park	Stockton
Honda Motor - training center	30,000	Grupe Business Park/I 5	Stockton
General Mills	30,000	Industrial Way/Cluff	Lodi
General American Window	30,000	3730 N Wilson Way	Stockton
West Star Industries	30,000	Gandy Dancer/S Tracy Blvd	Tracy
Wesprint Corporation	25,000	Arch Road Indstrl Park/US 99	Stockton
John Atwood Graphics	20,000	El Pinal Indstrl Park/West Lane	Stockton
Madruga Iron Fab	20,000	Gandy Dancer/S Tracy Blvd	Tracy
Mohawk Tire Company	20,000	Airport Business Center/US 99	Stockton
Beadex Manufacturing	20,000	El Pinal Indstrl Park	Stockton
Laidlaw Corporation of the West	20,000	Tillie Lewis Drive/Navy Drive	Stockton
Spaulding Equipment	15,000	Vallejo Court/Roth Road/I 5	Lathrop
TOTALS			
Number of companies	39		
Number of square feet	3,060,000		

Sources: San Joaquin Economic Development Association; Economic and Planning Systems.

TABLE 3

ESTIMATED VACANT LAND IN MANTECA AND LATHROP BY USE DESIGNATION

Use Designation	Acres of Vacant Land			
	Manteca	Lathrop	County	Total
Highway Service	150	5	50	155
General Commercial	42	40 - 50		82-92
Industrial	69	140		209

Based on interviews with San Joaquin County and Manteca planning staff members,[8,9] commercial projects in the planning approval pipeline in Lathrop and Manteca have been identified. In Lathrop the only activity planned for the I-5/Lathrop Road interchange is a Wendy's fast food restaurant, a gas station/mini-mart and a pizza parlor. There are no highway service projects in the planning approval pipeline in Manteca.

The small amount of commercial development in the pipeline is not surprising since the market area has yet to reach the necessary population threshold needed to support commercial developments. However, in Lathrop almost 1,000 dwelling units have recently been approved. In Manteca there are over 1,500 approved units and at the south end of Stockton, at Weston Ranch, 8,000 units have been approved. This forthcoming population increase will induce more commercial activity.

In terms of commercial land uses, the 40-50 acres of vacant land located at the I-5/Lathrop Road interchange is most comparable to the proposed 33.6-acre Limited Industrial GPA at the project site. These two tracts of land both have excellent access and visibility from I-5. However, the locational qualities of these two tracts within Lathrop determine their major difference. The I-5/Lathrop Road site is surrounded by the existing and future residential development in Lathrop and therefore is best suited for and will likely attract local-serving commercial uses. The proposed Limited Industrial portion of the project site is proximate to existing and future industrial development as well as SR 120. Hence, this area is best suited for and likely to attract regional-serving sales/service uses that will provide business services to the adjacent industrial park and other businesses in the region.

The supply of industrial property in the market area is more speculative in nature than the commercial market. While an exhaustive database of industrial property has yet to be compiled for the County, the newly developed Grubb & Ellis industrial inventory accounts for 4.1 million square feet of space in the County. The Grubb & Ellis data estimates that 800,000 square feet, or almost 20 percent of this space, is available.

Much of the recent construction and leasing activity is taking place in the vicinity of the Airport Business Center, located between Airport Way and Highway 99, north of Arch Road. According to an industrial real estate broker, 180,000 square feet were recently added in the first phase of development (125 acres in total). An additional 225 acres are approved for the second phase of the park. Even closer to the project site is the Grupe Business Park, south of Stockton near the I-5/French Camp Road interchange. Recently, 200,000 square feet of concrete tilt-up structures were constructed in the Grupe Park for the speculation market.

Overall, the supply of industrial property, both for the build-to-suit and speculation markets, is responding directly to the increasing demand from businesses moving out of the Bay Area and the expansion of local businesses. According to a leasing agent for the Airport Business Center, 60 percent of the prospective tenants are Bay Area businesses looking to relocate to a more affordable location and 40 percent of the market is from expanding companies in San Joaquin County.

3. Market Support for Highway Service and Limited Industrial Use

The primary land use issues surrounding this site address the appropriateness of the site uses in respect to the existing supply and demand conditions and the growth-inducing impacts of development at the project site.

In respect to the Highway Service General Plan Amendment, the market data indicates that there are approximately 220 acres of vacant highway service land in the market area, excluding the proposed GPA. The 100 acres of vacant highway serving commercial land at the intersection of SR 120 and Airport Way in Manteca and the 50-acre site south on I-5 at Mossdale are the largest agglomerations of vacant competitive land in the market area. The 100-acre Manteca tract is not likely to be adversely impacted by the GPA since it has different locational qualities. This site would service east-west traffic on SR 120 rather than north-south traffic on I-5.

The market relationship between the proposed Highway Service GPA and the I-5/Mossdale site is an issue in terms of the proliferation of highway service uses along I-5 in the market area. From a market standpoint, the GPA site has the advantage of being in close proximity to residential and industrial uses. The site will be able to attract customers from both drive-by traffic on I-5 and the surrounding uses. The I-5/Mossdale exit does not offer the same population and employment base necessary to support its highway service uses. It will have to depend on capturing a customer base from I-5 traffic. While the scope of this analysis does not include an in-depth market study necessary to estimate whether the area can support the proliferation of similar uses, it is evident that the proposed highway service GPA site has market and locational advantages over the I-5/Mossdale site.

Given the locational qualities of the highway service site and the forthcoming demands from population growth and employment growth in the market area, it appears that the addition of highway services at the I-5/Louise Avenue intersection will not have an adverse effect on the existing, approved and potential (vacant sites) highway service uses in the market area.

The proposed General Plan Amendment from general industrial to limited industrial is also well supported by the market conditions discussed above. As Lathrop's residential and industrial lands are developed, the demand for auxiliary business services and regional commercial uses will increase. The five parcels adjacent to I-5 offer excellent freeway visibility, a must for regional commercial users. In addition, the parcels can be accessed along Harlan Road avoiding the heavy industrial user along the eastern edge of the site. The locational differences between the GPA site and the I-5/Lathrop Road site should lessen the competitive impact of these two sites.

4. Timing of Development

Because of insufficient data available to determine the market support for the proliferation of various highway service uses, in particular a hotel at both sites, a market feasibility study should be submitted by the applicant as a condition of GPA approval and prior to approval of final development plans.

C. PLANNING POLICY

1. Environmental Setting

The proposed project is a General Plan Amendment to change the land use designations for portions of the project site as follows:

- From General Industrial to Highway Service on 44 acres.
- From General Industrial to Limited Industrial on 33.6 acres.

Subsequent to the General Plan Amendment, the applicant must also request a zone reclassification to rezone the amended portions of the site from M-2 (General Manufacturing) to H-S (Highway Service) and from M-2 to C-M (Commercial Manufacturing). The permitted uses in the existing M-2 zone are varied, including commercial and industrial uses such as a foundry or an automobile rental agency; manufacturing; wholesale food and kindred processing facilities; laboratories; assembly plants; garbage dumps; rendering plants and slaughterhouse; chemical manufacturing facilities; storage warehouses; expansion of existing residences and membership organizations. (Refer to County Zoning Ordinance, Chapter 4, Section 9-7301.)

Figure 6 depicts the General Plan designations for the site and surrounding area. The General Plan has designated the entire site General Industrial. Surrounding properties are a mix of general industrial, residential and commercial designations. Lands west of I-5 and between Yosemite Avenue and SR 120 are designated Agriculture. Lands adjacent to the site and east of McKinley are also designated General Industrial.

Zoning in the immediate project vicinity is also zoned M-2. Directly south of the site the zoning is C-M (Commercial Manufacturing). Directly north of Louise Avenue the zoning is C-1 (Neighborhood Commercial) and residential of varying densities. (Refer to Figure 7.)

The project site is located in the unincorporated area of San Joaquin County and is therefore subject to the County's General Plan and Zoning ordinances. Since the request is to amend the Land Use/Circulation Element Map of the General Plan, the Land Use Element is the most relevant element to discuss in the context of the proposed project. In this element are policies relevant to industrial and commercial land uses. The following discussion will address both consistency and inconsistency with relevant planning policies.

It should be noted that the planning discussion will focus only on the amendment requests. Since project plans are consistent with the General Plan designation for the remaining portion of the project site, it will not be necessary to examine planning policies for the general industrial designation.

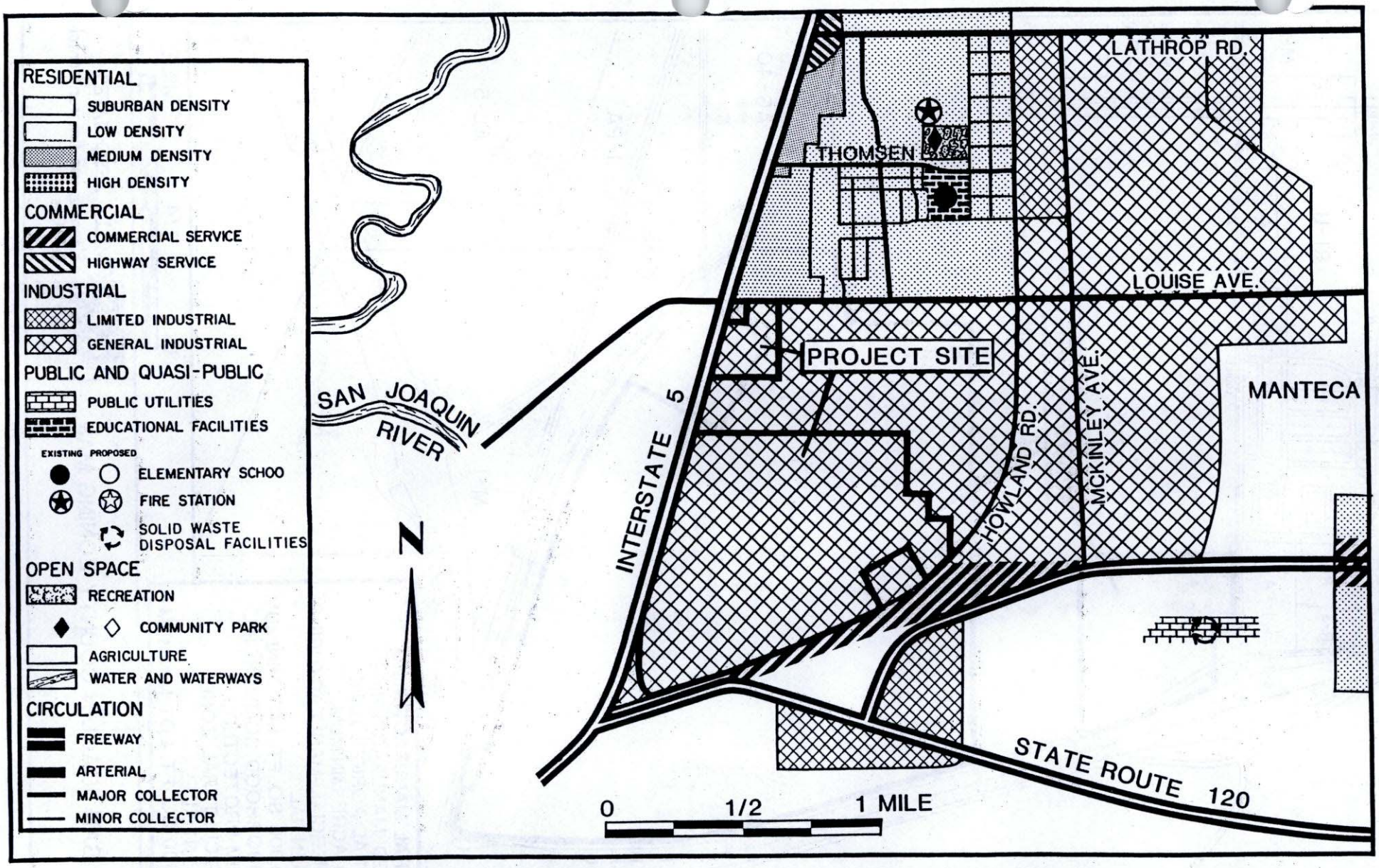

FIGURE 6 SAN JOAQUIN COUNTY GENERAL PLAN LAND USE AND CIRCULATION ELEMENT MAP

MILLS ASSOCIATES
Planning and Environmental Services

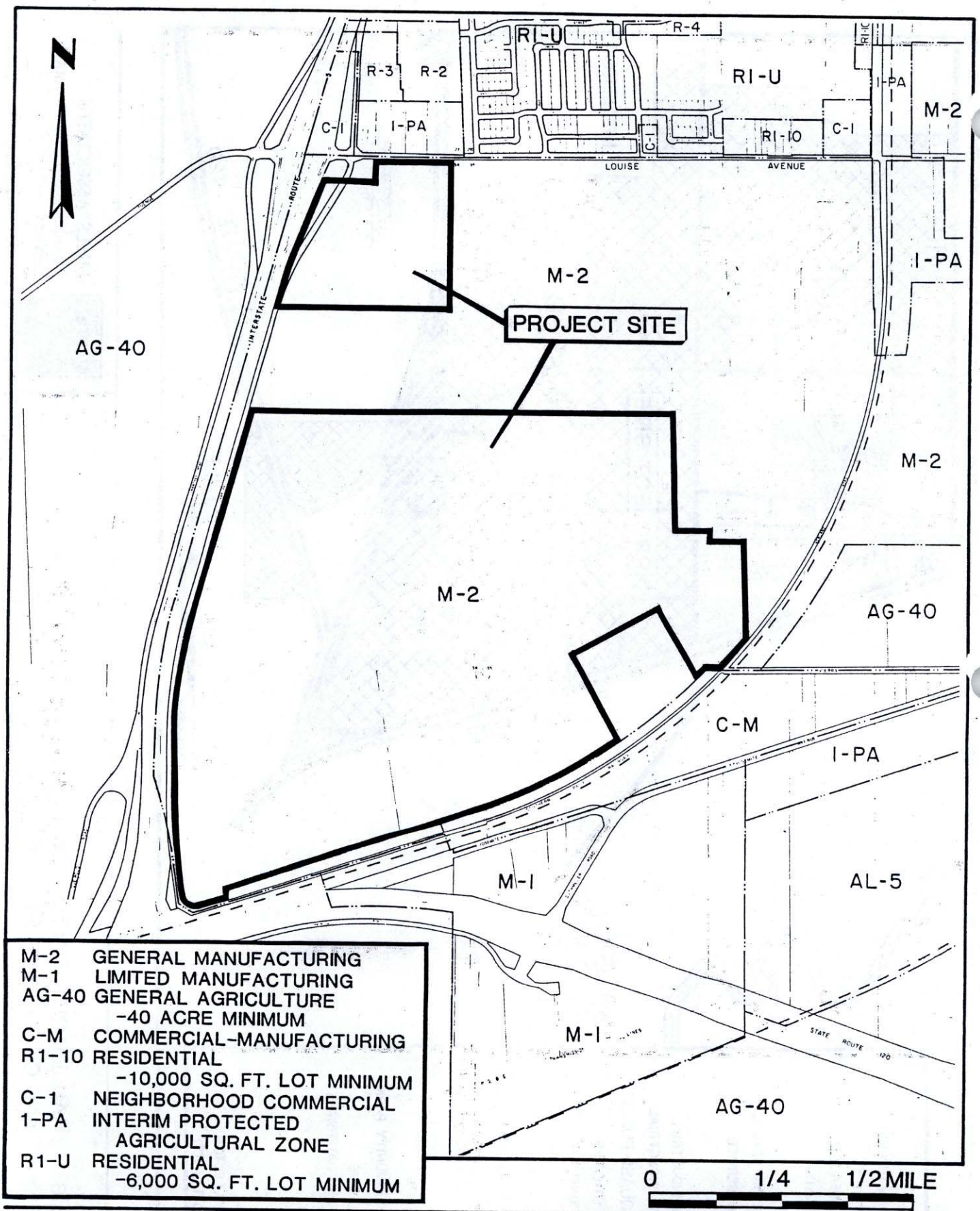

FIGURE 7 SAN JOAQUIN COUNTY ZONING MAP

MILLS ASSOCIATES
Planning and Environmental Services

2. Environmental Impacts

a. Highway Service

The applicant is requesting a Highway Service designation on 44 acres located in the northwest quadrant of the property and adjacent to the I-5/Louise Avenue interchange. A major goal of the Commercial Land Use Policies is "to promote a pattern of commercial uses which provides for the needs of both consumer and businessman...which is compatible with other land uses and complementary to the circulation system." An objective of this goal is "to provide clusters of commercial establishments which serve almost exclusively the freeway traveler."

Principles to carry out the objective relative to Highway Service use are found in 9 a-g. It is the intent of this principle to direct highway service to areas where the facilities can primarily serve the traveler and are separated from commercial areas which primarily serve local residents. The applicant is proposing a Highway Service development which would include a multi-storied hotel/motel, restaurants, service station, meeting facility, and fast food and retail establishments. The facility would be designed to cater to the highway traveler and to persons visiting the proposed and existing businesses in the Lathrop area.

The proposed project would be located adjacent to a major freeway interchange whereby project traffic on local streets would be minimized. The development would be contained in one location, thereby eliminating the possibility of scattering highway service uses. It has been determined through the market study conducted for this project that given the central location and the projected population growth, coupled with the employment growth associated with the development, the proposed project would not have an adverse effect on existing, approved and potential highway service uses in the market area. Thus, the proposed highway service use is consistent with Principles 9 a-g.

b. Limited Industrial/Commercial Manufacturing

It is proposed that 33.6 acres would be redesignated for Limited Industrial use. A goal in the Industrial Development policies is "to assure ample opportunities for industrial development within the County such that each urban center will be able to provide local employment opportunities and a diversified industrial base commensurate with its size and function." The following objectives have been adopted to meet the above goal.

- To promote the potential of the County's well developed transportation network in relation to its advantageous location for distribution of goods and products.

- To provide desirable locations for a variety of industries by designating those areas which are best suited for industrial uses because of their physical character, compatibility with surrounding land uses, transportation facilities, and existing and planned utilities.

- To protect designated industrial areas from incompatible land uses in order to maintain their attraction for existing, expanding or future industries.

The proposed General Plan Amendment would conform to the goals, objectives and principles of an industrial land use designation. However, the applicant is requesting a rezoning to C-M (Commercial Manufacturing) which is compatible to the General Plan designation under "certain circumstances." These circumstances have not been identified in the County's General Plan, thus the Board of Supervisors must make findings that the C-M zone classification is consistent with the General Plan designation at the time this application is received by the Board.

For the 33.6 acres fronting Harlan Road, the applicant is proposing wholesale-retail outlets specializing in home building and improvement materials and equipment, services and supplies, specialized contractor offices, service offices, and assorted maintenance and repair services. The Limited Industrial designation is applied to an area which provides for industrial activities that are compatible with other land uses. Activities include certain wholesaling, warehousing or distributive uses which can meet high performance standards. It should be noted that the applicant's plans to provide for retail outlets and certain service offices may not be consistent with the allowable activities under the Limited Industrial designation.

A general principle of the General Plan states: "Urban growth will take place in areas within and adjacent to urban centers, precluding further random skip and ribbon developments." The proposed project is utilizing land already designated for industrial purposes, thereby precluding development from encroaching into rural, agricultural areas. Additionally, the location of the site adjacent to a major freeway with easy access, coupled with the availability of the railroad, provides an existing transportation system without the necessity of creating additional major off-site transportation improvements. (This should not be confused with local improvements which will be required to mitigate local traffic impacts.)

c. Traffic/Circulation

A principle in the General Plan states: "All significant trip generators shall be served by roads of adequate capacity and design standards to provide reasonable and safe access by appropriate transportation modes with minimum delay." In a recent Appellate Court case (Concerned Citizens of the County of San Joaquin v. Board of Supervisors), it was ruled that development that would cause the level of service to drop below C is prohibited by the above General Plan policy. The court determined that the minimum level of service on County roadways would be designated LOS C. The Appellate Court determined that the above principle "would not allow development if that development would cause level of roadway service to drop below level C." The traffic study indicated that with the implementation of the appropriate mitigation measures, none of the intersections studied would operate below LOS C. However, to be consistent with the above planning policy it is important that the mitigation measures become conditions of project approval. Without the improvements LOS E or F would occur at six intersections. (Refer to Traffic Section, V.A.)

3. Suggested Mitigation Measures

To ensure consistency with the Limited Industrial designation, retail uses should not be permitted on the 33.6-acre portion of the project.

To be consistent with the policy of maintaining LOS C on local streets, the mitigation measures suggested in the Traffic Section should become conditions of project approval.

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1 Executive Officer's Report, Local Agency Formation Commission meeting, December 2, 1988.
2 John Mendes, grower, personal communication, February, 1989.
3 Soil Conservation Service, response to the Notice of Preparation, July 8, 1988.
4 San Joaquin County, Agricultural Report, 1987.
5 Diane Correia, Real Estate Broker, Sterling Commercial Real Estate, personal communication, February, 1989.
6 David Schimdt, Economic Development Coordinator, City of Stockton, personal communication, February, 1989.
7 San Francisco Examiner, February 17, 1989.
8 Kerry Sullivan, Planner, San Joaquin County, personal communiciation, February, 1989.
9 Ben Cantu, Planner, City of Manteca, personal communication, February, 1989.

SECTION V
ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

A. TRAFFIC/CIRCULATION

1. Introduction

This report addresses the impacts of traffic flow directly attributable to the proposed Crossroads Industrial Park Development in San Joaquin County. The proposed 528-acre project site would be located adjacent to Interstate 5 between Louise Avenue and State Route 120 west of the City of Manteca.

The scope of this analysis includes the traffic impacts at 12 key intersections and also on freeway weaving and merging areas in the project vicinity during both the AM and PM peak hours. Special consideration has been given to project access as it pertains to emergency vehicle access and safety concerns. Finally the effects of cumulative development will also be analyzed. Where significant impacts are identified, mitigation measures will be developed to either minimize or alleviate such impacts. Mitigation to be considered will include physical improvements as well as transportation system management (TSM) measures.

2. Environmental Setting

a. Street Network

Roadways serving the study area include Interstate 5, State Route 120, Louise Avenue, Yosemite Avenue, Vierra Road, Guthmiller Road, Airport Way, McKinley Avenue, Howland Road, 7th Street, Harlan Road and Manthey Road. (Refer to Figure 1.) Descriptions of each roadway are listed as follows:

Interstate 5 is a four to 10-lane, north-south freeway which serves San Joaquin County and the entire Central Valley. South of the Route 120 junction, I-5 has four northbound lanes and five southbound lanes. Full ramp access is available at Louise Avenue. In this area, the I-5 mainline speed limit is 65 mph.

State Route 120 is a two to four-lane expressway serving the City of Manteca. It extends from the I-5 junction east to Route 99. A passing lane is provided on alternate segments of Route 120. Ramp access is available at Guthmiller Road and Airport Way.

Louise Avenue is a two-lane east-west arterial street which runs between I-5 and northern Manteca. A continuous two-way left-turn lane is provided on a half-mile segment of Louise Avenue between Harlan Road and Howland Road.

Yosemite Avenue is a two to four-lane arterial street which runs west from downtown Manteca. It terminates at a cul-de-sac west of Guthmiller Road. A continuous two-way left-turn lane is provided on a three-quarter mile segment of Yosemite Avenue between McKinley Avenue and Airport Way.

Vierra Road is a two-lane local street which runs east-west between Howland Road and McKinley Avenue. Vierra Road meets the Yosemite/McKinley junction to form a five-leg intersection. The Howland Road junction is adjacent to a railroad crossing.

Guthmiller Road is a two-lane north-south arterial street extending south of Yosemite Avenue. Guthmiller Road provides partial ramp access to traffic on Route 120 to/from the west.

Airport Way and McKinley Avenue are two-lane north-south arterial streets. Airport Way provides full access to Route 120.

Howland Road is a two-lane private road adjacent to the railroad track and owned by the Southern Pacific Transportation Company. Howland Road is currently maintained by San Joaquin County.[1]

7th Street is a two-lane local street serving residential traffic north of Louise Avenue. 7th Street forms the north leg at the Louise/Howland intersection.

Harlan Road is a two-lane frontage road east of I-5. Harlan Road terminates north of Route 120 at Howland Road. Traffic on I-5 gains access to Harlan Road via the Louise Avenue interchange.

Manthey Road is a two-lane frontage road west of I-5. Traffic on I-5 gains access to Manthey Road either via the Louise Avenue or the Manthey-Mossdale Road interchanges.

b. Traffic Flow Conditions

Intersections

Existing traffic conditions were determined to establish a base for assessing project traffic impacts. AM and PM peak hour turning movement counts[2,3] at twelve intersections were used to determine operating conditions.

The existing peak hour volumes were analyzed for levels of service (LOS) using the methods described here. The nine 2-way stop-sign controlled intersections were analyzed using Highway Capacity Manual: Special Report 209.[4] The two 4-way stop-sign controlled intersections at Airport/Louise and McKinley/Yosemite were analyzed using "A Study for Four-Way Stop Intersection

Capacities."[5] Volume/capacity ratios are not available for stop-sign controlled locations. The Circular 212 Planning Method[6] was used for the one signalized intersection at Airport/Yosemite.

Table 4 indicates stable conditions (LOS "C" or better) at all but the two 4-way stop-sign controlled locations during both peak hours. Airport/Louise is seriously congested (equivalent to LOS "E" to "F") during both peak hours. Traffic volumes at Airport/Louise exceed the minimum level at which signalization is warranted.[7] McKinley/Yosemite is at very stable conditions (LOS "A") during the AM peak but is very congested (LOS "E") during the PM peak hour. See Figures 8 and 9 for existing traffic volumes. Intersection levels of service concepts and definitions are included in Appendix B. Calculation worksheets are on file with the San Joaquin County Planning Department.

TABLE 4

LOS & V/C SUMMARY
EXISTING CONDITIONS

Int. No.	N-S Street	E-W Street	Signal Control	LOS & V/C AM Peak		LOS & V/C PM Peak	
1	I-5 SB Ramps	Louise	U	A	-	A	-
2	I-5 NB Ramps	Louise	U	A	-	B	-
3	Harlan	Louise	U	A	-	C	-
4	Howland	Louise	U	B	-	A	-
5	Airport	Louise	4-way	F	-	E	-
6	McKinley	Vierra-Yosemite	U	A	-	A	-
7	McKinley	Yosemite	4-way	A	-	E	-
8	Airport	Yosemite	S	A	0.28	A	0.43
9	Guthmiller	Rt. 120 WB On-Ramp	U	A	-	A	-
10	Guthmiller	Rt. 120 EB Off-Ramp	U	A	-	C	-
11	Airport	Rt. 120 WB Ramps	U	A	-	A	-
12	Airport	Rt. 120 EB Ramps	U	A	-	A	-

Legend: S = Signalized
U = Stop-sign controlled

Freeway Operation

According to Caltrans,[8] Route 120 (east of the I-5 junction) currently carries 38,700 daily vehicle trips, 3,200 AM peak hour trips and 3,390 PM peak hour trips. Heavy vehicle use currently represents 15 percent (5,800 trips) of the average daily traffic

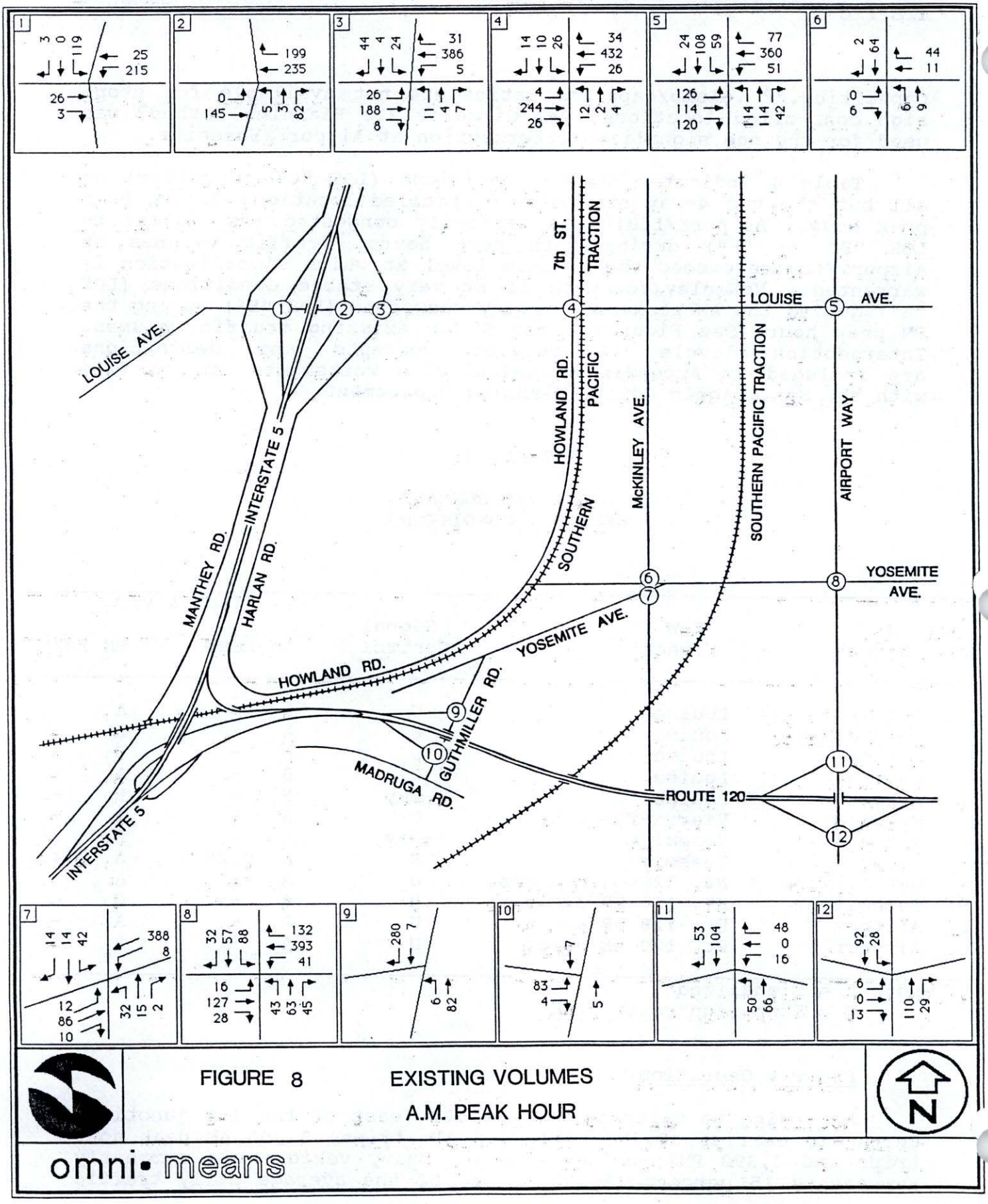

FIGURE 8 EXISTING VOLUMES
A.M. PEAK HOUR

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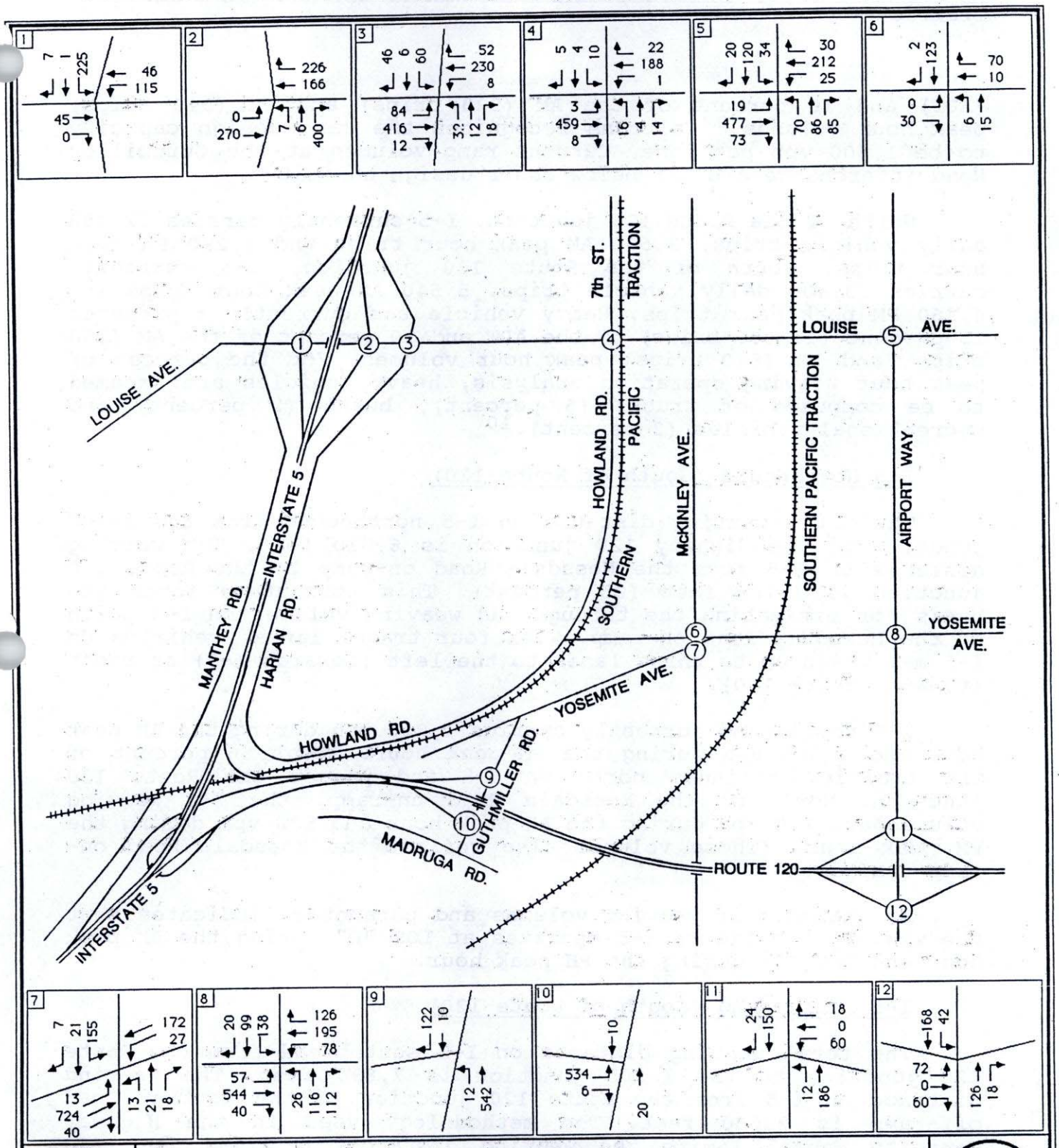

FIGURE 9 EXISTING VOLUMES
P.M. PEAK HOUR

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(ADT) and 10 percent of the AM (320 trips) and PM (340 trips) peak hour volumes.[9] Caltrans recognizes the ramp design capacity to be 1,500 vph per lane. Current ramp volumes at the Guthmiller Road interchange are far below their design capacity.

North of the Route 120 junction, I-5 currently carries 52,300 daily vehicle trips, 3,500 AM peak hour trips and 4,290 PM peak hour trips. South of the Route 120 junction, I-5 currently carries 73,400 daily vehicle trips, 5,540 AM peak hour trips and 6,360 PM peak hour trips. Heavy vehicle use currently represents 15 percent (11,000 trips) of the ADT and 10 percent of the AM (550 trips) and PM (640 trips) peak hour volumes. For the purpose of peak hour weaving operation analysis, heavy vehicles are assumed to be composed of trucks (6 percent), buses (2 percent) and recreational vehicles (2 percent).[10]

I-5 Northbound (South of Route 120)

The total weaving distance on I-5 northbound from the I-205 junction to the Highway 120 junction is 6,710 feet. The weaving distance on I-5 from the Mossdale Road on-ramp to the Route 120 junction is 1,700 feet (25 percent). This percentage forms the basis for estimating the through and weaving volumes on I-5 north of the Mossdale Road on-ramp. With four travel lanes, vehicles on I-5 may weave up to three lanes to the left (towards I-5) or right (towards Route 120).

I-5 northbound currently carries 1,920 vph during the AM peak hour and 4,380 vph during the PM peak hour. About 56 percent of the traffic continues north on I-5 and passes the Route 120 junction. North of the Mossdale Road on-ramp, the I-5 weaving volumes are 260 vph during the AM peak hour and 580 vph during the PM peak hour. (These volumes also reflect the Mossdale Road on-ramp traffic.)

An analysis of weaving volumes and parameters indicates that the weaving traffic on I-5 operates at LOS "D" during the AM peak hour and LOS "E" during the PM peak hour.

I-5 Southbound (South of Route 120)

The total weaving distance on I-5 southbound from the Route 120 junction to the I-205 junction is 7,890 feet. The weaving distance on I-5 from the Route 120 junction to the Manthey Road off-ramp is 2,660 feet. The methodology used in the Highway Capacity Manual limits the weaving distance to 2,500 feet (30 percent). This percentage forms the basis for determining the through and weaving volumes on I-5. With four travel lanes on I-5, vehicles may weave up to three lanes to the left (towards I-5) or right (towards I-205).

I-5 southbound currently carries 3,670 vph during the AM peak hour and 2,080 vph during the PM peak hour. About 35 percent of the traffic continues south on I-5 and passes the I-205 junction. The weaving volumes are 550 vph during the AM peak hour and 360 vph during the PM peak hour. (These volumes also reflect the Manthey Road off-ramp traffic.)

An analysis of weaving volumes and parameters indicates that the weaving traffic on I-5 operates at LOS "D" during the AM peak hour and LOS "C" during the PM peak hour.

See Table 5 for freeway weaving levels of service summary. Freeway weaving area levels of service criteria are attached in Appendix B. Calculation worksheets are on file with the County Planning Department.

TABLE 5

FREEWAY WEAVING AREA LEVELS OF SERVICE
INTERSTATE 5 (SOUTH OF ROUTE 120)

	Northbound		Southbound	
	AM	PM	AM	PM
1988 Existing	D	E	D	C
1988 Existing + Project	D	F	D	D

3. Environmental Impacts

a. Project Description

The proposed project would include a mixed use of general manufacturing (450 acres), commercial manufacturing (33.6 acres) and highway service (44 acres). The site would be located in the vicinity of Louise Avenue, Harlan Road and Howland Road. All manufacturing uses would be located in the southern part of the site near Harlan Road and Howland Road. All highway service uses would be located in the northern part of the site near Louise/Harlan.

b. Project Trip Generation

Based upon the Institute of Transportation Engineers (ITE) research, trip rates for general manufacturing were established using industrial park use and trip rates for commercial manufacturing were established using building material store and warehousing uses.[11,12] Trip rates for highway service uses were taken from the recent Dell'Osso Farms Project.[13] (Refer to Table 6.)

TABLE 6

PROJECT TRIP GENERATION RATES

Land Use	Gross Area (acres)	Daily Trips /acre	Peak Hour Trips/acre			
			AM	(% In:Out)	PM	(% In:Out)
General Manufacturing Industrial Park	450.0	49.2	5.8	82 : 18	5.8	21 : 79
Commercial Manufacturing						
Building Material Store (20%)	6.7	143.7	9.6	62 : 38	11.5	51 : 49
Warehousing (80%)	26.9	56.0	9.4	72 : 28	14.0	38 : 62
Highway Service	44.0	150.0	9.0	70 : 30	12.0	40 : 60
Total	527.6 acres					

TABLE 7

PROJECT TRIP GENERATION SUMMARY

Land Use	Net Area	Daily Trips	Peak Hour AM (In / Out)			Peak Hour PM (In / Out)		
Manufacturing								
General	382.5	18,820	2,220	1,820	400	2,220	470	1,750
Commercial	28.6	2,100	270	190	80	390	160	230
Highway Service	37.4	5,610	340	240	100	450	180	270
Totals	448.5	26530	2830	2250	580	3060	810	2,250

An industrial park is typically characterized by a mixed use of manufacturing, service and warehousing facilities. Highway service development is characterized by a mixed use of gas stations, restaurants (quality/fast food), retail/service stores, hotel/motel and recreational facilities. Such uses tend to divert "through" traffic away from the freeway. Using ITE research,[14] it is estimated that 45 percent of the traffic to/from the highway service project area would be "diverted" while the remaining 55 percent would be "new" project trips. A "diverted" trip is one in which the immediate destination is just a secondary part of the primary trip, such as work-to-shopping-to-home.

In summary, the proposed project would generate a total of 26,530 daily trips with 2,830 (2,250 in, 580 out) trips occurring during the AM peak hour and 3,060 (810 in, 2,250 out) trips occurring during the PM peak hour. Project trip generation is summarized in Table 7.

c. Project Trip Distribution

Project trip distribution has been determined based on existing volumes, traffic projections,[15,16] land use, accessibility, and internal circulation. Vehicle trip distribution has been determined as follows:

- 30 percent on I-5 (north)
- 25 percent on I-5 (south)
- 30 percent on Route 120 (east)
- 10 percent on Yosemite Avenue (east)
- 5 percent on Louise Avenue (east)

"Diverted" project traffic destined for the highway service project area was assigned to the access ramps at the Louise Avenue interchange and adjacent streets.

d. Site Circulation

The project site would be served by Louise Avenue, Harlan Road, Howland Road and Vierra Road. (Refer to Figure 3.) The project streets would be a grid network of north-south and east-west facilities. The two main site access points would be located at Louise/Harlan and Howland/Vierra. Louise/Harlan is currently 250 feet east of Louise/I-5 northbound ramps. The project proposes the relocation of Harlan Road (both north and south legs) east by about 600 feet.

Howland/Vierra is currently located 100 feet west of the railroad crossing. This at-grade crossing is steeply sloped (approximately 15 percent) on both sides of the railroad track. The posted speed limit on Vierra Road is 45 mph. However, the observed vehicle speeds at the crossing are much lower. According

to the Caltrans Design Manual,[17] a design speed of 45 mph requires a minimum stopping sight distance of 360 feet. Due to the limited sight distance and queue storage length, the project would include the relocation of Howland/Vierra. According to San Joaquin County,[18] Howland/Vierra has had an average of one traffic accident per year during the past five years. Traffic signalization is not warranted based on accident history. However, the project would cause the traffic volume to exceed the minimum level at which signalization would be warranted.[19]

Street improvements proposed as part of the project design would include the following:

Louise/Harlan
Install traffic signals.
Widen Harlan Road (south leg) to four travel lanes with a continuous two-way left-turn lane.
Stripe Harlan Road (northbound) approach to include two left-turn lanes and a shared right-through lane.
Widen Louise Avenue (eastbound) approach to include a left-turn lane, a through lane, and a right-turn lane.

Howland/Vierra
Install traffic signals.
Reduce the posted speed limit to 35 mph.
Realign Vierra Road to run northwesterly near the railroad track crossing and to meet the project's internal "A" Street at Howland Road.
Relocate Howland/Vierra to provide a queue storage length of 250 feet between Howland Road and the railroad crossing and provide an at-grade crossing of about three to four percent slope. Also realign Howland Road in conjunction with the intersection modification.

e. Heavy Vehicle Use

I-5 is a major route serving primarily interregional traffic with local travel as a secondary function. Interregional recreational traffic is responsible for most of the peak hour traffic. I-5 is also on the Shell Route System which requires capacity beyond the legal loads, and is designated by the Federal Highway Administration (FHWA) as an interim route for large trucks.

It is assumed that heavy vehicle use generated by the project would represent 15 percent of the daily and 10 percent of the peak hour traffic. The proposed project would generate a total of 3,600 "new" daily truck trips with 265 AM peak hour trips and 285 PM peak hour trips. This added project truck traffic represent up to 8 percent growth to the current I-5 daily traffic of 11,000

truck trips, and up to 19 percent growth to the current Route 120 daily traffic of 5,800 truck trips.

f. Project Impacts

Intersections

The existing volumes were added to the project volumes at the 12 intersections to establish the "project conditions." The levels of service were recalculated for both peak hours and summarized in Tables 8 and 9 and are shown in Figures 10 and 11.

With project traffic, peak hour operation would be stable (LOS "C" or better) at Louise/Harlan (signalized), Airport/Yosemite (signalized), Guthmiller/Route 120 westbound on-ramp, and Airport/Route 120 westbound ramps. Severe congestion (LOS "F") is expected at Airport/Louise and McKinley/Yosemite (4-way stop-sign controlled). Side street operation at the remaining six two-way stop-sign controlled locations would experience delays ranging from LOS "D" to "F." Through vehicles on the main approaches would not be required to stop and hence would experience minimal delay.

TABLE 8

LOS & V/C SUMMARY (AM PEAK HOUR)
PROJECT CONDITIONS

Int. No.	N-S Street	E-W Street	LOS & V/C Existing	Project	Proj+Mit.
1	I-5 SB Ramps	Louise	A -	F -	A 0.54
2	I-5 NB Ramps	Louise	A -	F -	C 0.74
3	Harlan	Louise	A -	B 0.67	A -
4	Howland	Louise	B -	C -	A 0.38
5	Airport	Louise	F -	F -	B 0.62
6	McKinley	Vierra-Yosemite	A -	C -	- -
7	McKinley	Yosemite	A -	D -	C 0.75
8	Airport	Yosemite	A 0.28	A 0.36	A 0.33
9	Guthmiller	Rt. 120 WB On-Ramp	A -	A -	A -
10	Guthmiller	Rt. 120 EB Off-Ramp	A -	B -	A 0.3
11	Airport	Rt. 120 WB Ramps	A -	A -	A -
12	Airport	Rt. 120 EB Ramps	A -	A -	A 0.19

TABLE 9

LOS & V/C SUMMARY (PM PEAK HOUR)
PROJECT CONDITIONS

Int. No.	N-S Street	E-W Street	LOS & V/C Existing		Project		Proj+Mit.	
1	I-5 SB Ramps	Louise	A	-	F	-	A	0.58
2	I-5 NB Ramps	Louise	B	-	F	-	B	0.65
3	Harlan	Louise	C	-	C	0.79	C	-
4	Howland	Louise	A	-	D	-	A	0.45
5	Airport	Louise	E	-	F	-	B	0.61
6	McKinley	Vierra-Yosemite	A	-	F	-	-	-
7	McKinley	Yosemite	E	-	F	-	A	0.59
8	Airport	Yosemite	A	0.43	B	0.65	A	0.45
9	Guthmiller	Rt. 120 WB On-Ramp	A	-	A	-	A	-
10	Guthmiller	Rt. 120 EB Off-Ramp	C	-	D	-	A	0.45
11	Airport	Rt. 120 WB Ramps	A	-	B	-	C	-
12	Airport	Rt. 120 EB Ramps	A	-	D	-	A	0.48

Freeway Operation

North of the Route 120 junction, I-5 would carry 3,920 AM peak hour trips and 4,830 PM peak hour trips. Project trips would result in about 12 percent growth in I-5 traffic.

South of the Route 120 junction, I-5 would carry 6,170 AM peak hour trips and 7,090 PM peak hour trips. Project trips would result in about 11 percent growth in I-5 traffic.

I-5 Northbound (South of Route 120)

With project traffic, I-5 northbound would carry 2,460 AM peak hour trips and 4,560 PM peak hour trips. The weaving volumes would be 310 AM peak hour trips and 600 PM peak hour trips. (These volumes also reflect the Mossdale Road on-ramp traffic.)

An analysis of weaving volumes and parameters indicates that the weaving traffic on I-5 southbound would continue to operate at LOS "D" during the AM peak hour but would deteriorate from LOS "E" to "F" during the PM peak hour. Hence, the added project traffic would have a measurable impact on I-5 peak hour operation.

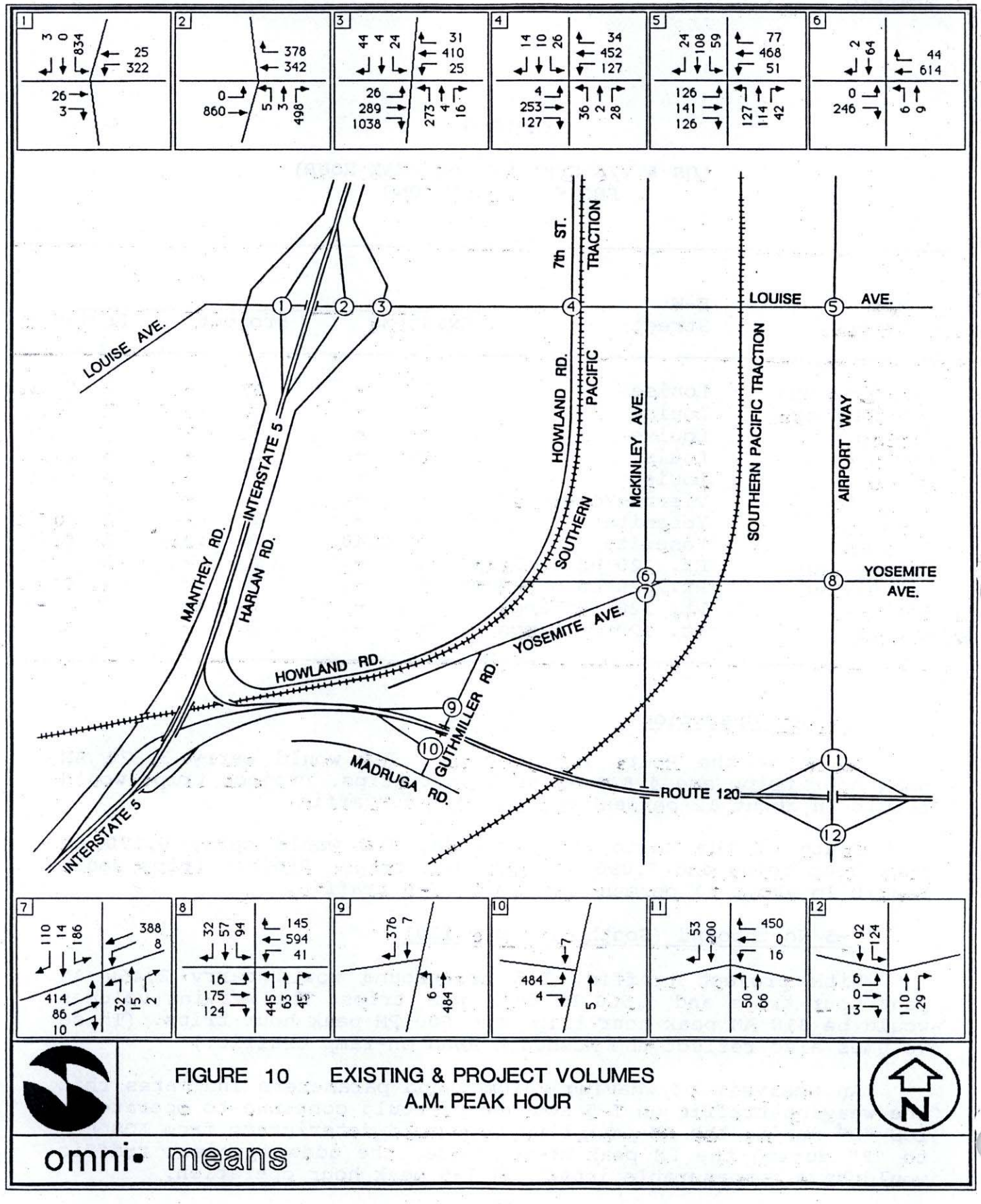

FIGURE 10 EXISTING & PROJECT VOLUMES
A.M. PEAK HOUR

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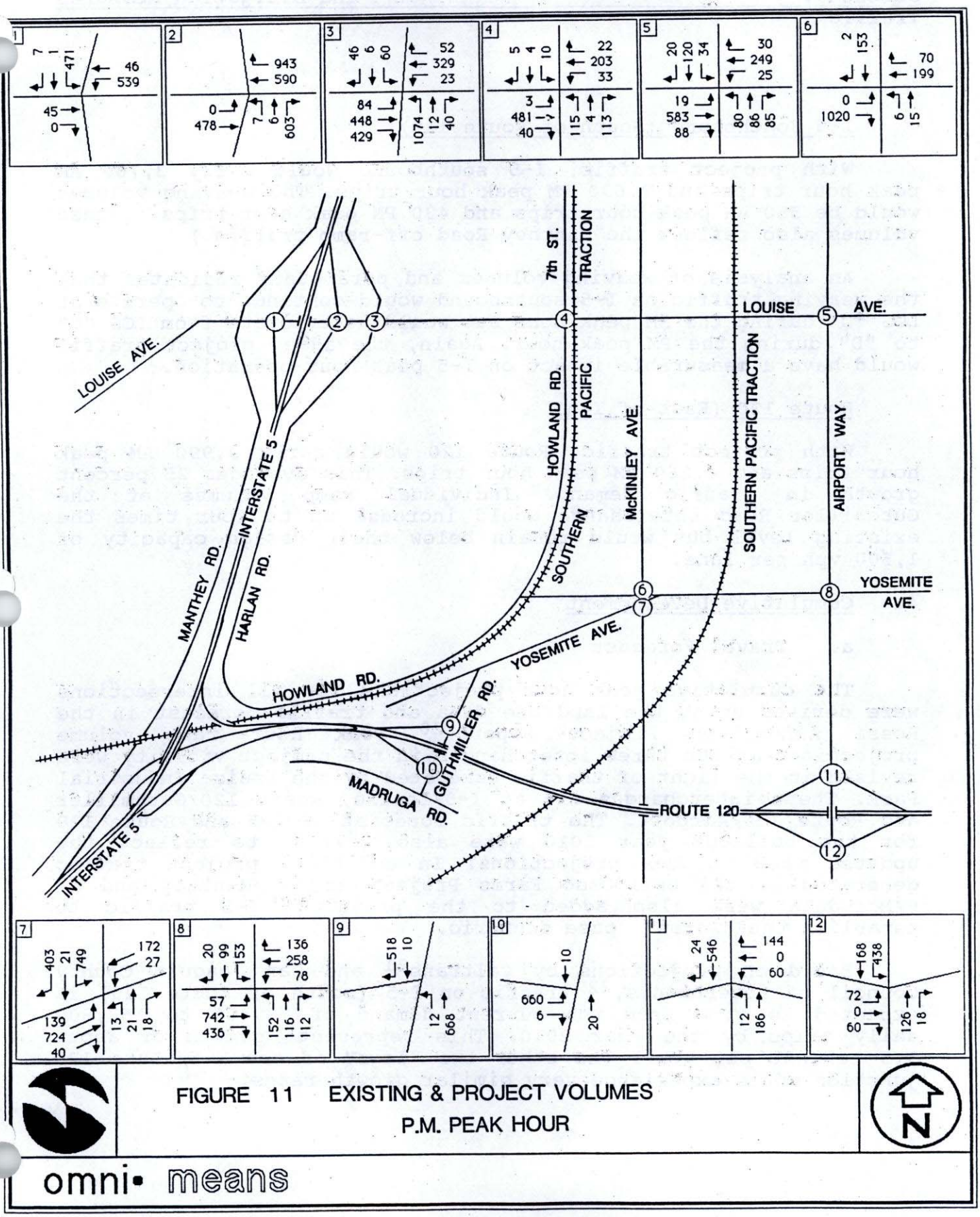

FIGURE 11 EXISTING & PROJECT VOLUMES
P.M. PEAK HOUR

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I-5 Southbound (South of Route 120)

With project traffic, I-5 southbound would carry 3,760 AM peak hour trips and 2,630 PM peak hour trips. The weaving volumes would be 550 AM peak hour trips and 430 PM peak hour trips. (These volumes also reflect the Manthey Road off-ramp traffic.)

An analysis of weaving volumes and parameters indicates that the weaving traffic on I-5 southbound would continue to operate at LOS "D" during the AM peak hour but would deteriorate from LOS "C" to "D" during the PM peak hour. Again, the added project traffic would have a measurable impact on I-5 peak hour operation.

Route 120 (East of I-5)

With project traffic, Route 120 would carry 3,990 AM peak hour trips and 4,260 PM peak hour trips. This averages 25 percent growth in traffic demand. Individual ramp volumes at the Guthmiller Road interchange would increase up to four times the existing level but would remain below their design capacity of 1,500 vph per lane.

4. Cumulative Development

a. Travel Forecast

The cumulative peak hour projections for all intersections were derived using the land use data and traffic forecast in the Rossi Annexation Project Report.[20] Peak hour ramp volume projections at the three interchanges in the project vicinity were revised in the light of traffic generated by the Louise Industrial Park. These interchanges are at I-5/Louise, Route 120/Guthmiller and Route 120/Airport. The traffic forecast on I-5 and Route 120 for the buildout year 2010 were also revised to reflect the updated ramp volumes projections. In addition, project traffic generated by the Dell'Osso Farms Project at I-5/Manthey and I-5/Mossdale were also added to the projected I-5 traffic to establish the "worst" case scenario.

Based on projections by Caltrans[21] and San Joaquin County Council of Governments,[22] traffic on I-5 (south of Route 120) is expected to grow from the current demand of 73,400 to 157,800 daily trips by the year 2010. This represents growth of about 3.5 percent per year. The other two "legs" of the I-5/Route 120 junction would experience very similar growth rates.

b. Planned Improvements

Planned street improvements listed below were obtained from the Lathrop Traffic Report:[23]

Roadway

- Widen Louise Avenue (east of I-5) and Airport Way (north of Louise Avenue) to four travel lanes with a continuous two-way left-turn lane.
- Widen Harlan Road (north of Louise Avenue) to two travel lanes with a continuous two-way left-turn lane.
- Widen Harlan Road (south of Louise Avenue) to four travel lanes.

Intersection

Louise/Harlan
- Widen the Louise Road approaches to include a left-turn lane, a through lane, and a shared right-through lane.
- Widen the Harlan Road approaches to include a left-turn lane and a shared right-through lane.

Louise/Howland-7th
- Widen the Louise Road approaches to include a left-turn lane, a through lane and a shared right-through lane. (While this location is not discussed in the Lathrop Traffic Report, it is assumed that the Louise Avenue approaches will be widened to this configuration.)

Louise/Airport
- Widen all four approaches to include a left-turn lane, a through lane, and a shared right-through lane.

c. Cumulative Impacts

Intersections

The cumulative projections used at the twelve intersections already include traffic generated by the proposed project. The planned improvements were incorporated in the street network in recalculating the levels of service to these intersections during both peak hours (refer to Tables 10 and 11) .

With areawide buildout, Guthmiller/Route 120 westbound on-ramp would be at very stable (LOS "A") peak hour conditions. Both signalized intersections at Louise/Harlan and Airport/Yosemite would be severely congested (LOS "F"). At the remaining nine stop-sign controlled locations, severe congestion would occur on the side street approaches (LOS "F").

TABLE 10

LOS & V/C SUMMARY (AM PEAK HOUR)
CUMULATIVE CONDITIONS

Int. No.	N-S Street	E-W Street	LOS & V/C Existing		Cumulative		Cum+Mit.	
1	I-5 SB Ramps	Louise	A	-	F	1.63	D	0.83
2	I-5 NB Ramps	Louise	A	-	F	1.96	D	0.86
3	Harlan	Louise	A	-	F	1.15	B	0.68
4	Howland	Louise	B	-	F	-	C	0.79
5	Airport	Louise	F	-	F	2.39	F	1.02
6	McKinley	Vierra-Yosemite	A	-	F	-	-	-
7	McKinley	Yosemite	A	-	F	-	E	0.90
8	Airport	Yosemite	A	0.28	F	1.98	F	1.35
9	Guthmiller	Rt. 120 WB On-Ramp	A	-	A	-	A	-
10	Guthmiller	Rt. 120 EB Off-Ramp	A	-	F	-	C	0.73
11	Airport	Rt. 120 WB Ramps	A	-	F	-	A	0.48
12	Airport	Rt. 120 EB Ramps	A	-	F	-	D	0.86

TABLE 11

LOS & V/C SUMMARY (PM PEAK HOUR)
CUMULATIVE CONDITIONS

Int. No.	N-S Street	E-W Street	LOS & V/C Existing		Cumulative		Cum+Mit.	
1	I-5 SB Ramps	Louise	A	-	F	1.82	E	0.92
2	I-5 NB Ramps	Louise	B	-	F	3.39	C	0.71
3	Harlan	Louise	C	-	F	1.64	D	0.89
4	Howland	Louise	A	-	F	-	D	0.82
5	Airport	Louise	E	-	F	1.72	B	0.66
6	McKinley	Vierra-Yosemite	A	-	F	-	-	-
7	McKinley	Yosemite	E	-	F	-	F	1.25
8	Airport	Yosemite	A	0.43	F	3.19	F	1.13
9	Guthmiller	Rt. 120 WB On-Ramp	A	-	A	-	A	-
10	Guthmiller	Rt. 120 EB Off-Ramp	C	-	F	-	D	0.85
11	Airport	Rt. 120 WB Ramps	A	-	F	-	C	0.77
12	Airport	Rt. 120 EB Ramps	A	-	F	-	F	1.75

Freeway Operation

I-5 Northbound (South of Route 120)

Without Project - Under cumulative projections, I-5 would carry 3,640 AM peak hour trips and 9,180 PM peak hour trips. The weaving volumes would be 490 AM peak hour trips and 1,210 PM peak hour trips. An analysis of weaving volumes and parameters indicates that the buildout traffic would cause freeway operation to degrade to LOS "E" in the AM peak and LOS "F" in the PM peak hour.

With Project - Under project buildout, I-5 would carry 4,180 AM peak hour trips and 9,360 PM peak hour trips. The weaving volumes would be 550 AM peak hour trips and 1,230 PM peak hour trips. The added project traffic would have no measurable impact on peak hour conditions beyond that identified in the "without project" scenario.

I-5 Southbound (South of Route 120)

Without Project - Under cumulative projections, I-5 would carry 7,820 AM peak hour trips and 3,960 PM peak hour trips. The weaving volumes would be 1,170 AM peak hour trips and 680 PM peak hour trips. An analysis of weaving volumes and parameters indicates that the buildout traffic would cause freeway operation to degrade to LOS "F" in the AM peak and LOS "E" in the PM peak hour. (Refer to Table 12.)

With Project - Under project buildout, I-5 would carry 7,910 AM peak hour trips and 4,500 PM peak hour trips. The weaving volumes would be 1,180 AM peak hour trips and 750 PM peak hour trips. The added project traffic would have no measurable impact on peak hour operation beyond that identified in the "without project" scenario.

Route 120 (East of I-5)

Without Project - Under cumulative projections, Route 120 would carry 6,330 AM peak hour trips and 6,700 PM peak hour trips. This averages 2.0 times the current traffic demand. Individual ramp volumes at the Guthmiller Road interchange were projected at up to 6.0 times the current level. The projected Route 120 eastbound off-ramp volume at Guthmiller Road would far exceed the current design capacity. The westbound on-ramp peak hour volumes would remain below the current design capacity.

With Project - Under project buildout, Route 120 would carry 7,120 AM peak hour trips and 7,570 PM peak hour trips. This averages 2.2 times the current traffic demand. Ramp volumes at the Guthmiller Road interchange were projected at 14 times the current level. Such traffic demand would far exceed the current ramp design capacity. Hence, the project traffic would cause significant traffic impact at the Guthmiller Road ramp junctions.

TABLE 12

FREEWAY WEAVING AREA LEVELS OF SERVICE
INTERSTATE 5 (SOUTH OF ROUTE 120 JUNCTION)

	Northbound		Southbound	
	AM	PM	AM	PM
1988 Existing	D	E	D	C
1988 Existing + Project	D	F	D	D
2010 Cumulative w/o Project	E	F	F	E
2010 Cumulative with Project	E	F	F	E

5. Mitigation

a. Mitigation for the Proposed Project

As shown in the foregoing calculations, the added project traffic would have measurable impacts at seven intersections and also on the I-5 mainline operation during both peak hours. Mitigation measures are recommended as follows:

Intersection

Louise/I-5 Southbound Ramps - Intersection operation could be improved to very stable (LOS "A") peak hour conditions by traffic signalization and also widening the I-5 southbound off-ramp to include a left-turn lane and a shared left-turn/through/right-turn lane.

Louise/I-5 Northbound Ramps - Intersection operation could be improved to stable (LOS "C" or better) peak hour conditions by traffic signalization and also widening the I-5 northbound off-ramp to include a shared left-turn/through/right-turn lane and a right-turn lane.

Louise/Howland-7th - Intersection operation could be improved to very stable (LOS "A") peak hour conditions by traffic signalization.

Louise/Airport - Intersection operation could be improved to very stable (LOS "B") peak hour conditions with widening of the intersection and providing traffic signalization.

McKinley/Vierra-Yosemite - The proximity of this intersection to McKinley/Yosemite creates essentially a five-leg intersection and this design would result in long delays to side street vehicles as the main street through traffic continues to increase. Modifications to McKinley/Vierra-Yosemite could include closing Vierra Road to form a cul-de-sac at the McKinley Avenue junction and also closing the east leg (one-way street) of Yosemite Avenue across from Vierra Road. To route project traffic onto Yosemite Avenue, Vierra Road could be realigned (approximately halfway between Howland Road and McKinley Avenue) to meet Yosemite Avenue at a "T" intersection 1,000 feet west of McKinley/Yosemite. Intersection operation at the resulting McKinley/Yosemite intersection could be improved to stable (LOS "C" or better) peak hour conditions by traffic signalization and widening Yosemite Avenue (eastbound) approach to include a shared left-through lane and a shared right-through lane. This would require widening Yosemite Avenue and Guthmiller Road to four travel lanes between McKinley Avenue and the Route 120 ramp junctions.

Guthmiller/Route 120 Eastbound Off-Ramp - Intersection operation could be improved to very stable (LOS "A") peak hour conditions by traffic signalization.

Airport/Route 120 Eastbound Ramps - Intersection operation could be improved to very stable (LOS "A") peak hour conditions by traffic signalization.

Freeway

The added project traffic would have a measurable impact on the peak hour weaving operations on I-5 south of the Route 120 junction. Adequate freeway signings needed for channeling weaving traffic are currently posted in the vicinity of the I-5/Route 120 and the I-5/I-205 junctions. Caltrans has no immediate plans to expand I-5 but would widen I-5 to meet buildout traffic needs in 20 years time. It is noted that additional lanes on I-5 would reduce the traffic volume per lane but would require motorists to weave across a wider cross section of the freeway.

In addition to the above, the applicant will be required to pay traffic impact mitigation fees to finance public facilities as required by the recently adopted resolution establishing Lathrop traffic impact mitigation fees.

b. Mitigation for Cumulative Buildout

Under buildout traffic, all but one of the twelve intersections would be significantly affected by the cumulative traffic projections. Improvements to peak hour intersection operation would require substantial interchange modifications, roadway expansion and intersection modification.

Interchange modifications needed would include providing full access ramps at Route 120/Guthmiller and constructing partial cloverleaf access ramps for Route 120/Airport and I- 5/Louise. Needed roadway expansion includes widening Louise Avenue, Yosemite Avenue, McKinley Avenue and Airport Avenue to eight travel lanes with provision for protected left-turn lane. Intersection modifications would be required in conjunction with roadway expansion to channel turning movements efficiently. Caltrans plans to add two travel lanes to I-5 at buildout.

The buildout traffic projection would cause weaving on I-5 to degrade from LOS "E" to "F" during both peak hours. However, traffic generated by the proposed project would have no measurable impact on freeway weaving operation beyond that identified under the "without project" scenario. Hence, no mitigation would be required as a result of the proposed project traffic.

c. Transportation System Management (TSM)

In addition to traditional traffic improvements, consideration has been given to the development of a program to reduce the traffic generated by proposed developments. Such TSM measures include programs for ride sharing, work hour coordination, transit improvements, marketing and employee incentives. These programs are described as follows:

Program Implementation

It is anticipated that the County would require that individual office and industrial developments (over an established size) would be required to implement a TSM program and appoint an individual to coordinate the program for that development. Each development's coordinator would be involved in the day to day functions outlined below.

As the employment areas continue to develop, there would be a greater need for coordination and implementation. An effective organizational structure for the larger employment would involve a Transportation Management Association (TMA).

San Joaquin County could assist in appointing a TSM manager and necessary support staff to assist the development's coordinators with those issues or data which are beyond the immediate control of each coordinator. Specifically, the TMA manager's responsibilities should include:

- provide computerized carpool matching services for development coordinators;
- aid the coordinators in any specific efforts to effect transit improvements;
- provide the coordinators with information available for employee travel, carpooling, and related measures at other employers in the area;
- print brochures or other materials for use by coordinators in marketing various program components;
- provide the coordinators with available traffic data to assist in the effort to efficiently coordinate employee work hours; and
- prepare reports documenting the effectiveness of the Countywide TSM effort.

Program Components

To effectively reduce peak hour auto traffic, each of the following TSM components need to be pursued:

Ridesharing.

Ridesharing matching applications should be periodically distributed for all employees. Through orientation meetings, all new employees should be personally contacted and notified of the ridesharing program. Matching of riders/drivers could be done manually by the TSM coordinator.

Work Hour Coordination.

As each development is filled, each new employer should be contacted to determine typical employee work hours. The TSM coordinators would maintain a record of the employee work hours including the number of employees and their typical arrival and departure times.

The employee work hour information would be made available to the TMA manager. If work hours tend to be focused at particular times, this data can be used by the TMA manager to discuss potential work hour changes with various employers. Such changes would be promoted as a means for improving employee satisfaction and on-time arrival at their work place.

Transit Improvements.

Consideration would be given to provide transit services and needed access. Such service could include expanding local service or peak hour express service. Other improvements could include bus stop benches and/or shelters adjacent to a development. The TSM coordinator could submit any proposed changes or improvements to the TMA manager.

Bicycle Improvements.

To encourage bicycle commuting, new developments should incorporate bicycle storage facilities. In addition street improvements in the study area should incorporate bicycle lanes and/or other design features.

Marketing and Employee Incentives.

The following marketing and employee incentive programs could be accomplished:

- provide orientation briefings for new employees;
- establish a transportation center where transit and ride sharing information will be available;
- maintain continuing publicity as well as special promotions;
- employer purchases transit passes and sell the passes on-site at a discounted rate to employees; and
- provide preferential parking for carpools and vanpools (parking to be designated on an "as needed" basis as carpools or vanpools are formed).

Program Monitoring.

To monitor the individual development of the TSM program, the coordinators and TMA would be responsible for the following functions:

- conduct an initial employee travel survey and driveway traffic counts (at such time as the development is about 100 percent occupied) to identify the mode of employee travel and total traffic to/from the development;
- maintain records of carpools and vanpools formed, sale of transit passes and parking usage; and
- periodically, conduct follow-up surveys and counts to establish the effectiveness of the TSM program and report these findings to the County TSM administrator.

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5 Herbert, J., A Study for Four-Way Stop Intersection Capacities, Highway Research Record 27, Highway Research Board, Washington, D.C., 1963.
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7 U.S. Department of Transportation, Federal Highway Administration (FHWA), Manual on Uniform Traffic Control Devices, Revision No. 4, March, 1986.
8 Caltrans, District 10, traffic counts, October, 1988.
9 Caltrans, District 10, Planning Division, traffic projections, January, 1989.
10 Caltrans, District 10, truck traffic counts, July, 1988.
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14 Ibid., ITE.
15. Ibid., Caltrans, traffic projections.
16 San Joaquin County Council of Governments (SJCCOG), Traffic Projections, January, 1989.
17 Caltrans, Highway Design Manual, 4th ed., August, 1988, Table 201.1.
18 San Joaquin County, Public Works Department, Traffic Accident Record, January, 1989.
19 Ibid., FHWA.
20 Ibid., WPM Planning Team, Inc.
21 Ibid., Caltrans, traffic projections.
22 Ibid., SJCCOG, traffic projections.
23 San Joaquin County, Public Works Department, Engineering Report for the Lathrop Traffic Impact Mitigation Fee, 1989.

B. AIR QUALITY

1. Introduction

The purpose of this report is to summarize current climate and air quality conditions in the project area, estimate carbon monoxide and other emissions that may occur as a result of project implementation and to relate how those emissions compare to predicted air quality conditions in the project area. Where appropriate, mitigations of air quality-related impacts are offered.

2. Environmental Setting

a. Regulatory Environment And Ambient Air Quality

The Clean Air Act of 1967, as amended in 1970 and 1988, established air quality standards for several pollutants. The Act outlines primary standards designed to protect public health, and secondary standards intended to protect public welfare from effects such as visibility reduction, soiling, nuisance and other forms of damage. In addition, the State of California has adopted its own standards. The state and federal standards are shown in Table 13. They provide acceptable durations for specific contamination levels that are designed to avoid adverse effects within a margin of safety.

The air quality monitoring station nearest to Lathrop is the Stockton station, operated by the California Air Resources Board. Table 14 presents a summary of the most recent available air quality data in Stockton and notes when pollutant levels have exceeded federal and state standards.[1]

The data in Table 14 indicates that air quality in the Lathrop area is in compliance with the applicable standards for nitrogen dioxide (NO2) and sulphur dioxide (SO2). Ozone concentrations exceeded air quality standards in Stockton for the past two years and carbon monoxide (CO) concentrations were exceeded in 1986. California standards for total suspended particulates (TSP) were exceeded for the last two years. Because ozone is primarily a regional air pollution problem, concentrations measured at the Stockton monitoring station are likely to be representative of conditions at the site. In contrast, other pollutants listed in Table 14, particularly TSP, are more sensitive to nearby local sources. The Stockton data for TSP, therefore, may not ideally represent conditions in Lathrop.

Ozone forms in the atmosphere by a complex series of photochemical reactions (reactions that involve sunlight) between nitrogen oxides and hydrocarbons, both of which are present in automobile exhaust. The reactions take several hours to produce

TABLE 14

AIR POLLUTION SUMMARY
STOCKTON, CA

	Ozone		CO		NO_2	SO_2	TSP
	max/days	max/days	max/days	max/days	max/days	max/days	mean/days
1986 (ppm)	.12/12	.14/3	17/0	9.3/1	.16/0	.03/0	80.6/1 (CA)
1987 (ppm)	.12/11	.16/1	15/0	7.6/0	.10/0	.04/0	83.7/1 (CA)
Standards (ppm)	.10 (CA)	.11 (CA)	20 (1 hr)	9.1 (8 hr)	.25 (1 hr)	.05/1	50 Mgm3 (CA) 150 Mgm3 (Fed)

TABLE 13
STATE AND FEDERAL AIR QUALITY STANDARDS

Pollutant	Averaging Time	Concentration	Agency
Oxidant	1 hour	0.12 ppm	Federal
Carbon Monoxide (CO)	8 hours	9 ppm (10 mg/m^3)	Federal
	1 hour	35 ppm (40 mg/m^3)	Federal
Nitrogen Dioxide (NO_2)	1 hour	0.25 ppm	State
Sulfur Dioxide (SO_2)[2]	24 hours	0.04 ppm	State
Total Suspended Particulates (TSP)	annual geometric mean	60 $\mu g/m^3$	State
	24 hours	100 $\mu g/m^3$	State
Lead (Pb)	30 days	1.5 $\mu g/m^3$	State
Sulfates	24 hours	25 $\mu g/m^3$	State
Non-Methane Hydrocarbons (NMHC)	3 hours (6-9 a.m.)	0.24 ppm	State
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	State
Visibility Reducing Particles	1 observation	Insufficient amount to reduce the prevailing visibility to less than 10 miles	State

[1]The table shows only the more stringent of the Federal or California air quality standards. Federal standards are not to be exceeded more than once per year; California standards are never to be equalled or exceeded.

[2]In September 1977, the State Air Resources Board (ARB) adopted a new SO_2 air quality standard. The standard is 0.05 ppm during 24 hours in combination with oxidant levels over the state one hour standard of 0.10 ppm or particulate matter in excess of the State 24 hour standard of 100 $\mu g/m^3$.

peak ozone levels and as a result, a significant portion of the ozone in central San Joaquin County is due to pollutant transport from upwind areas such as the San Francisco and San Jose urbanized areas.

In addition to regional air pollutant emissions, local emissions affect air quality at the project site. Sources of air pollution in the vicinity of the project area are emissions from Interstate Highway 5 and other nearby roadways, primarily for carbon monoxide.

b. Surface Wind Climate

Lathrop, in central San Joaquin County, has hot summers and mild winters. Minimum winter temperatures in the area range from 18 to 25 degrees Fahrenheit and summer temperatures are over 100 degrees Fahrenheit. Annual rainfall is about 14 inches. A temperature and rainfall summary for nearby Stockton is shown in Table 15. Marine air flows through the Carquinez Straits influencing the climate and the air quality in San Joaquin County, moderating temperatures and creating the characteristic southwesterly and northwesterly winds in the area.[2]

Ambient wind conditions in the area are graphically summarized in Figures 12 and 13. Figure 12 shows the predominant summer wind flow pattern in California with directional arrows from the west through the Stockton area. Figure 13 shows the variety of wind patterns that occur in the Sacramento Valley and Table 16 is a summary of seasonal wind speed and direction for Stockton based on measurements taken from 1964 to 1980.

The lightest winds occur during the winter and fall months making this time of the year the most susceptible to stable (stagnant) atmospheric conditions. The air is calm or windless approximately seven percent of the time.[3] The most stagnant meterological conditions occur during cold winter evenings and can lead to carbon monoxide (CO) buildups; in the summer, the sunny and hot weather in the San Joaquin Valley can lead to regional ozone buildups.

Based on characteristics of local winds, atmospheric stability, solar radiation, and terrain, the Lathrop/Stockton area has a moderate to high overall potential for air pollutant concentrations.

c. Receptors in the Project Vicinity

The most important reason to set air quality standards is to avoid adverse health impacts to the most sensitive members of the population. The term "sensitive receptor" refers both to sensitive populaton groups (children, senior citizens and acutely

TABLE 15
TEMPERATURE AND PRECIPITATION SUMMARY

STOCKTON, SAN JOAQUIN COUNTY
Elevation: 15 Feet

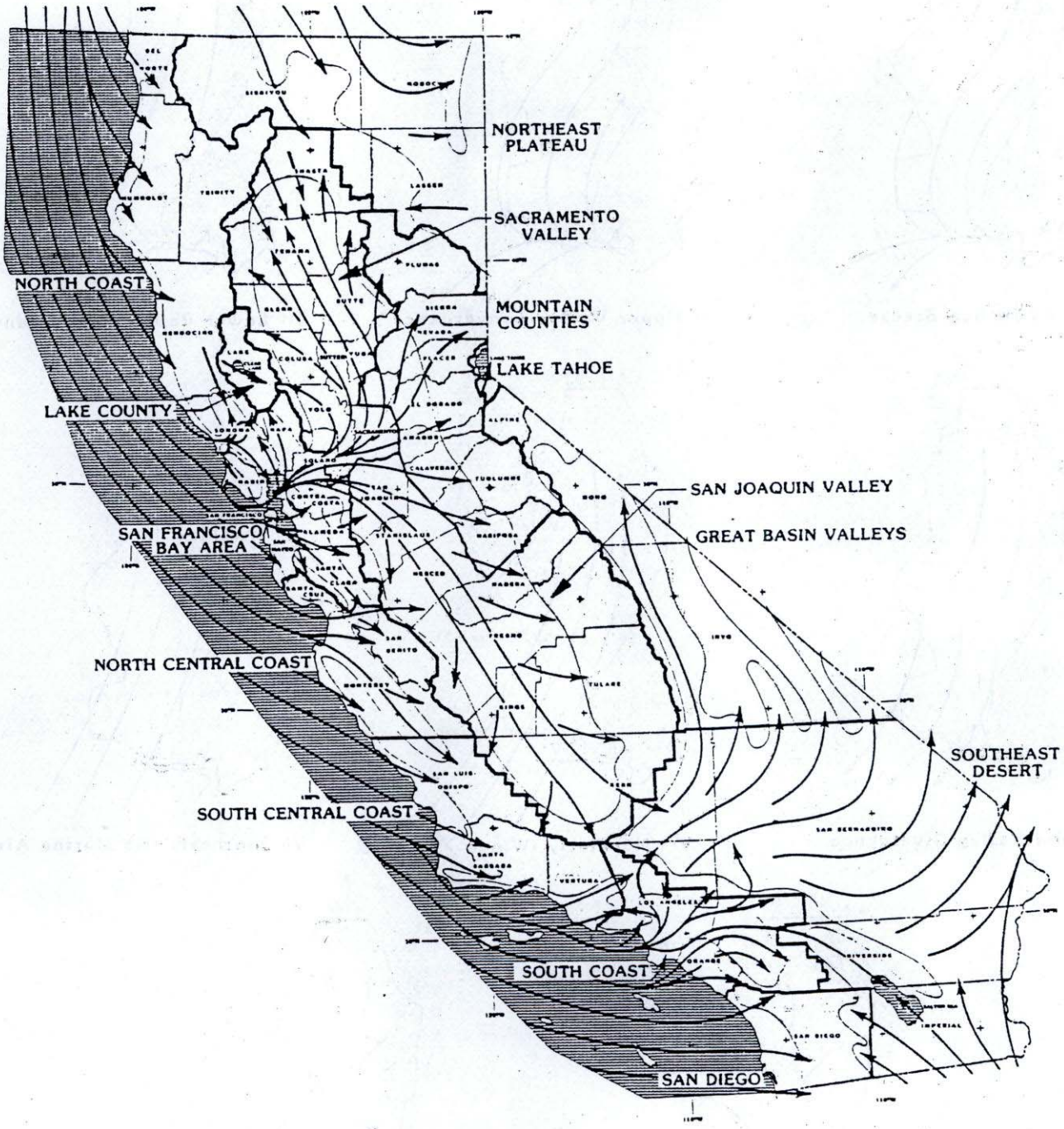
Temperature Summary

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
Highest	69	83	87	96	102	108	110	106	107	98	88	72	110
Average Max.	53.4	59.7	64.5	71.0	77.0	85.0	90.4	88.2	83.5	74.8	63.9	54.0	72.1
Average Min.	37.0	40.8	43.6	46.9	51.0	55.9	58.4	57.3	55.1	49.6	42.0	37.3	47.9
Record Mean	45.7	50.1	54.4	58.9	64.1	70.2	74.1	72.8	69.2	62.1	53.3	46.3	60.1
Lowest	18	21	30	31	36	40	42	40	42	31	25	18	18

Precipitation Summary

Record Mean	2.87	2.40	2.12	1.04	0.59	0.10	T	0.01	0.23	0.69	1.43	2.63	14.11

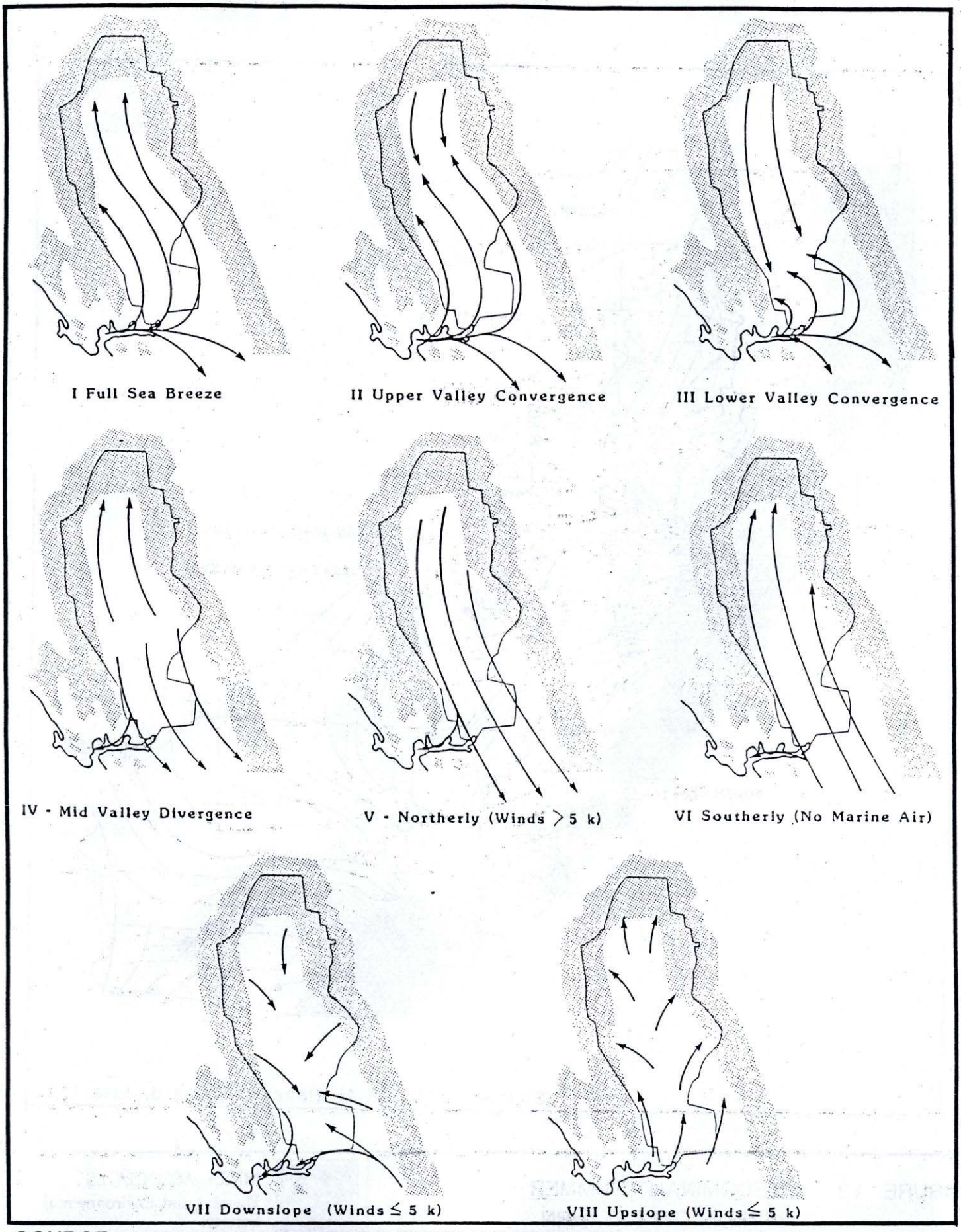
Aver. Number of days with .01 or more precip.: 49. Average Growing Season: 295 days.



Source: California Air Resources Board, June 1984

FIGURE 12 PREDOMINANT SUMMER WIND FLOW PATTERN

MILLS ASSOCIATES
Planning and Environmental Services



SOURCE: CALIFORNIA AIR RESOURCES BOARD, 1984

FIGURE 13 VALLEY AIR FLOW PATTERNS

MILLS ASSOCIATES
Planning and Environmental Services

TABLE 16
SURFACE WIND SUMMARY

SURFACE WIND SUMMARY

Station Name: STOCKTON
Elevation: 37 Feet

	Degrees	Minutes
North Latitude:	37	54
West Longitude:	121	15

Period of Record: 1964 - 1988

Observations: 64,299

Bias Index: 0.19
Speed Units: MPH

Source Code
Data: 1
Summary: L

	WINTER		SPRING		SUMMER		FALL		ANNUAL	
DIRECTION	% OF TIME	MEAN SPEED	% OF TIME	MEAN SPEED	% OF TIME	MEAN SPEED	% OF TIME	MEAN SPEED	% OF TIME	MEAN SPEED
N	3.7	8.8	5.8	9.4	8.1	7.2	6.8	7.7	6.1	8.1
NNE	1.2	5.5	1.6	5.4	2.3	5.5	2.2	5.2	1.8	5.4
NE	1.3	5.4	1.5	5.6	1.6	5.4	2.4	5.3	1.7	5.4
ENE	2.3	5.3	1.5	5.5	1.1	5.4	2.3	5.2	1.8	5.4
E	5.5	5.5	2.4	5.8	0.8	5.3	3.7	5.3	3.1	5.5
ESE	9.0	6.6	2.4	6.7	0.5	6.2	4.9	6.4	4.3	6.5
SE	12.9	9.0	3.6	8.3	0.3	7.1	5.5	8.2	5.7	8.7
SSE	11.5	10.9	3.4	10.0	0.2	7.1	4.4	8.9	5.0	10.2
S	7.2	7.4	2.6	7.5	0.4	5.8	3.5	6.6	3.5	7.2
SSW	1.8	5.6	1.3	6.3	0.2	5.1	1.5	5.3	1.2	5.7
SW	2.2	5.5	1.4	6.7	0.4	6.4	1.6	5.3	1.4	5.8
WSW	4.1	6.4	5.2	9.2	3.2	10.1	4.3	6.7	4.2	8.0
W	9.1	7.1	22.7	10.7	26.8	11.4	14.2	8.1	18.0	10.0
WNW	7.6	8.0	17.8	9.8	23.1	10.1	14.0	8.6	15.5	9.4
NW	6.5	9.5	13.0	10.7	16.3	10.3	11.8	9.6	11.8	10.1
NNW	4.9	11.2	8.3	12.2	10.9	9.1	8.2	10.0	8.0	10.5
CALM	9.1		5.4		3.7		8.6		6.9	
ALL		7.3		9.2		9.4		7.2		8.2

	WINTER	SPRING	SUMMER	FALL	ANNUAL
			RESULTANT WINDS		
DIRECTION:	175	293	298	300	292
SPEED:	1.4	5.6	7.7	2.9	3.8
PER. RATIO:	0.19	0.61	0.82	0.41	0.46
			PREDOMINANT WINDS		
DIRECTION:	SE	WNW	WNW	WNW	WNW
SPEED:	9.0	10.4	10.7	8.7	9.8
PERCENTAGE:	33.4	53.5	66.2	40.0	45.3
			SECONDARY PREDOMINANT WINDS		
DIRECTION:	WNW	N	N	N	N
SPEED:	8.1	10.5	8.0	8.5	9.0
PERCENTAGE:	23.2	15.7	21.3	17.2	15.9

Prepared by: California Air Resources Board

or chronically ill people), and to the facilities where these groups of people reside or spend a substantial amount of time (schools, playgrounds, convalescent homes, hospitals and clinics).

Sensitive receptors in the vicinity of the site include nearby homes. The closest homes are more than 50 feet from SR 120. As a result of roadway traffic, CO standards under worst case meteorological and present traffic conditions are not exceeded.

Elevated concentrations of air pollutants can adversely affect the health of humans which are more likey to be found in sensitive receptors. High concentrations of ozone produce eye irritation, and impair respiratory function. Elevated concentrations of CO impair oxygen transport in the bloodstream, aggravate cardiovascular diseases, impair central nervous system functioning, and cause fatique, headache, dizziness, and confusion. Long exposure to high particulate concentrations can interfere with respiratory function and in combination with atmospheric sulfur dioxide (SO2), can produce acute illnesses. At present all homes and other sensitive receptors near the site are experiencing the same atmospheric conditions as other places in the greater Stockton area.

There are no existing sources of criteria air pollutants, odorous compounds, or toxic contaminants near the project site that could cause health or nuisance problems for future residents.

d. Regional Air Quality Planning

The 1977 Clean Air Act required areas that did not meet federal air quality standards by 1982 to prepare air quality plans that would show how the standards would be met. The Air Quality Management Plan was prepared in 1982 by the San Joaquin County Planning Department with technical assistance from the Air Pollution Control District, the Council of Governments, and the Air Resources Board. The 1982 Plan contains strategies on the long-term attainment and maintenance of air quality standards, including measures to reduce emissions from automobiles and stationary sources. The Plan also suggests transportation control measures to reduce automobile emissions.[4]

The most significant baseline emission changes in 1985 and 1986 were related to the pesticide emissions and motor vehicle emissions.[5] "The pesticide emissions were substantially reduced due to an economically motivated shift from petroleum-based pesticides to synthetic substitutes. Based on the emission inventory data provided by the Air Resources Board (ARB), a 54 percent reduction in RHC emissions has occurred since 1979 due to control measures. On the other hand there has been a

substantial growth-related increase in motor vehicle emissions. Based on the ARB's emission inventory data there has been a 15 percent increase in light duty passenger vehicles and a 26 percent increase in light duty truck use."

The Air Quality Management Plan includes five transportation control measures designed to reduce emissions of RHC and CO. They are: (1) Improved public transit; (2) voluntary ridesharing; (3) park and ride lots; (4) bicycle programs; and (5) traffic flow improvements.

Reductions were experienced in 1985 and 1986 for both RHC and CO, however, total reductions were not as high as expected.

3. Environmental Impacts

The proposed project would generate air quality impacts during construction and occupancy of the buildings on site. Project-generated vehicle trips would also create emissions as residents travel to and from the project area.

a. Construction Impacts

Equipment and vehicles used for construction of roadways at the site may produce significant quantities of dust during earth-moving, grading and other site preparation activities. Wind movement over exposed earth surfaces also produces "fugitive" dust or windblown dirt, particularly where the soil is sandy.

Diesel fuel-powered equipment emits about 23 pounds of particulates, 34 pounds of sulfur oxides, 354 pounds of nitrogen oxides, 69 pounds of hydrocarbons, and 249 pounds of carbon monoxide per 1000 gallons of fuel burned. In addition, it is estimated that 1.2 tons of suspended dust are emitted per acre of construction per month of activity.[6] Although most pollution standards would not be exceeded by the above amounts, the 24-hour particulate standard of 200 micrograms per cubic meter could be exceeded locally during periods without dispersing winds. Table 17 shows emission factors for heavy duty diesel-powered vehicles that may be used for earth grading on site.

TABLE 17

EMISSION FACTORS FOR HEAVY-DUTY DIESEL-POWERED VEHICLES THAT MAY BE USED FOR SURFACE GRADING (ASSUMING SIX VEHICLES)

Pollutant	Emissions (gm/mile)	Total Emissions (gm/hour)
CO	20.54	205.4
NO	29.23	292.3
SOx	2.80	28.0
PART	1.96	19.6

Source: U.S.E.P.A.

Without mitigation the State 24-hour average particulate standards could be exceeded in the vicinity of the project area.

b. Motor Vehicle-Generated Impacts

Vehicle miles traveled will increase in the project area with or without the development of the project. Therefore, impacts are estimated for future conditions with and without the project and are compared to present conditions. On the local scale, CO is the most important pollutant; motor vehicle traffic rarely causes direct violations of other air quality standards. Assessment of project and cumulative impacts on local CO concentrations entails computer modeling of CO emissions at street intersections with the highest traffic volumes. Results of this modeling appear in Table 18. The CALINE 4 diffusion model, which was developed by Caltrans and recommended by the California Air Resources Board (CARB) was used for this study.[7]

The CALINE model is a finite line source dispersion model that predicts the changes in carbon monoxide levels arising from a road source. A line source diffusion model is a mathematical representation of the physical transport and mixing processes that occur in the atmosphere after the release of a pollutant. The following factors are considered in predicting the diffusion rate: atmospheric stability class, wind speed, wind angle, ambient CO concentrations, source and receptor heights, roadway configuration, receptor distance, emission factors, traffic volumes, surface roughness, and averaging time. Emission factors were those developed by the California Air Resources Board emission factor program EMFAC7D. Atmospheric Stability Classes are representations of the rate of pollutant diffusion. The stability

is a function of wind speed and solar heating at the earth's surface. The amount of solar heating is mathematically estimated as a function of the location latitude and longitude), season of the year, time of day, cloud cover, and ceiling height. For this study, a class E stability class was assumed when determining the eight hour average and class F was assumed for the one hour analysis. For the most probable conditions, a 10 mph wind speed and a parallel wind angle were used as they reflect conservative conditions. Receptor heights were 10 feet and receptor distances were 50 feet from the edge of the mixing cell (roadway). Ambient levels assumed were 3.0 ppm for one hour and 3.0 ppm for eight hour predictions. Two forms of evaluation for CO were made. The first was a link analysis of Interstate Highway 5 and SR 120 near the project site. The second evaluation was of three "hot-spot" locations at the intersections of Louise and Harlan, McKinley and Yosemite, and Yosemite and Airport.

Table 18 displays predicted one hour and eight hour average CO concentrations for existing conditions and for the other scenarios described in the Traffic Section of this report. Buildout is assumed to occur in 2010 and future traffic on Interstate Highway 5 is estimated to be 81,400 vehicles per day. Vehicle speeds with the project are estimated to be 25 mph during peak traffic hours at intersections and 55 mph on Interstate 5.

The modeling results indicate that within a zone of 50 feet from the edge of the roadway, the minimum distance to the nearest building, one and eight hour standards are not presently exceeded during the heaviest traffic periods. Under future conditions with project, the CO standards would be exceeded at Yosemite Avenue and Airport Way for eight hour standards.

While predicted concentrations of CO due to roadway traffic will be less than state or federal standards, the future scenario with project will create higher roadside concentrations than without it.

c. Regional Impacts

Estimates of regional emissions, based on land use by project traffic, were made using the URBEMIS-2 computer program developed by the California Air Resources Board. Inputs into the model were: land uses in acres, year of analysis, trip lengths, ambient temperature, vehicle fleet mix, trip generation rates and percent cold starts. Results from the URBEMIS-2 analysis are shown in Tables 19, a,b,c.

TABLE 18

ON-SITE PRESENT AND PREDICTED
AIR QUALITY CONDITIONS

Intersection	Existing 1 hr.	Existing 8 hr.	Future w/Project 1 hr.	Future w/Project 8 hr.	Future W/O Project 1 hr.	Future W/O Project 8 hr.
Louise & Harlan	4.33	3.93	7.49	6.14	4.88	4.32
McKinley & Yosemite	4.79	4.25	9.63	7.64	8.48	6.84
Yosemite & Airport	4.96	4.37	10.20	10.14	8.68	6.98
Link						
I-5	6.59	6.51	5.98	5.08	5.79	4.95
Rt. 120 (#1)	4.65	4.16	6.20	5.24	5.86	5.00
Rt. 120 (#2)	4.31	3.91	6.21	5.25	5.89	5.02
Standard	20	9	20	9	20	9

TABLE 19A

LATHROP
(EXISTING)

Unit Type	Trip Rate	Size	Total Trips	Day Op.
Single-Family Housing	10.0/unit	530	5300	
Mobile Home	5.4/unit	100	540	
Manufacturing	38.3/acre	100	3830	1

	Residential			Commercial	
	Home-Work	Home-Shop	Home-Other	Work	Non-Work
Trip length	6.0	2.6	34	5.4	3.5
% stated cold	87.1	38.8	56.1	75.9	26.2
Trip Speed	35	35	35	35	35
Percent Trip	27.3	21.2	51.5		

Vehicle Fleetmix

Vehicle Type	Percent Type	Leaded	Unleaded	Diesel
Light Duty Auto	72.8	19.0	78.0	2.9
Light Duty Truck	14.3	29.8	67.5	2.7
Medium Duty Truck	4.3	40.5	59.5	0.0
Heavy Duty Truck	3.9	100.0	0.0	N/A
Heavy Duty Truck	3.0	N/A	N/A	100.0
Motorcycles	0.9	100.0	N/A	N/A

Project Emissions Report in Tons/Day

Unit Type	TOG	CO	NO_X
Single-Family Housing	0.1	0.5	0.1
Mobile Home	0.0	0.1	0.0
Manufacturing	0.1	0.4	0.1

TABLE 19B

LATHROP
2010 WITH PROJECT

Unit Type	Trip Rate	Size	Total Trips	Day Op.
Single-Family Housing	10.0/unit	1112	11120	
Mobile Home	5.4/unit	100	540	
Neighborhood Shopping Center	1230.0/acre	50	61500	1
Commercial Strip Business	359.1/acre	46	16519	1
General Light Industrial	52.4/acre	34	1761	1
Industrial	56.1/acre	383	21486	1
Manufacturing	38.3/acre	100	3830	1

	Residential			Commercial	
	Home-Work	Home-Shop	Home-Other	Work	Non-Work
Trip length	6.0	2.6	3.4	5.4	3.5
% stated cold	88.6	40.4	58.8	77.8	27.6
Trip Speed	35	35	35	35	35
Percent Trip	27.3	21.2	51.5		

Vehicle Fleetmix

Vehicle Type	Percent Type	Leaded	Unleaded	Diesel
Light Duty Auto	72.8	1.5	95.9	2.6
Light Duty Truck	14.3	2.4	94.9	2.8
Medium Duty Truck	4.3	5.9	94.2	0.0
Heavy Duty Truck	3.9	33.3	66.7	N/A
Heavy Duty Truck	3.9	N/A	N/A	100.0
Motorcycles	0.9	100.0	N/A	N/A

Project Emissions Report in Tons/Day

Unit Type	TOG	CO	NO_x
Single-Family Housing	0.0	0.4	0.1
Mobile Home	0.0	0.0	0.0
Neighborhood Shopping Center	0.2	1.7	0.4
Commercial Strip Business	0.1	0.5	0.1
General Light Industrial	0.0	0.1	0.0
Industrial Park	0.1	0.8	0.1
Manufacturing	0.0	.2	0.0

TA[illegible] 19C

LATHROP
2010 WITHOUT PROJECT

Unit Type	Trip Rate	Size	Total Trips	Total Day Op.
Single-Family Housing	10.0/unit	530	5300	
Mobile Home	5.4/unit	100	540	
Manufacturing	38.3/acre	100	3830	1

	Residential			Commercial	
	Home-Work	Home-Shop	Home-Other	Work	Non-Work
Trip length	6.0	2.6	3.4	5.4	3.5
% stated cold	88.6	40.4	58.8	77.8	27.6
Trip Speed	35	35	35	35	35
Percent Trip	27.3	21.2	51.5		

Vehicle Fleetmix

Vehicle Type	Percent Type	Leaded	Unleaded	Diesel
Light Duty Auto	72.8	1.5	95.9	2.6
Light Duty Truck	14.3	2.4	94.9	2.8
Medium Duty Truck	4.3	5.9	94.2	0.0
Heavy Duty Truck	3.9	33.3	66.7	N/A
Heavy Duty Truck	3.9	N/A	N/A	100.0
Motorcycles	0.9	100.0	N/A	N/A

Project Emissions Report in Tons/Day

Unit Type	TOG	CO	NO_x
Single-Family Housing	0.0	0.2	0.0
Mobile Home	0.0	0.0	0.0
Manufacturing	0.0	0.2	0.0

The San Joaquin County Air Pollution Control District reported that 1985 countywide emissions in tons per day are:

TOG	CO	NOX
79.32	261.55	54.94

Predicted project and cumulative development emissions are:

TOG	CO	NOX
.4	3.7	.7

(These emission rates are less than one percent of County totals.)

Predicted cumulative emissions without the project are:

TOG	CO	NOX
0.0	.4	0.0

(There will be an increase of .4 tons/day of TOG, 3.3 tons/day of CO, and .7 tons per day of NOx with the project than without the project.)

The proposed development would contribute to regional concentrations of NOx and Ozone but due to the size of the project, its contribution would be less than one percent of the total County emissions. This would constitute a negligible impact on County-wide vehicle emissions levels for CO, HC, NOx, SOx, and TSP.

Since the proposed project will add emissions into the air basin, it is considered a significant adverse impact on the environment. However, with proper mitigation, this impact can be reduced to an insignificant level.

4. Suggested Mitigation Measures

a. Construction Mitigation

The California Health and Safety Code requires that measures be taken to minimize dust generation. Construction-related dust emissions can be reduced by approximately 50 percent by watering exposed earth surfaces during clearing, grading, earth-moving, and other site preparation activities. Conditions of approval should require that all construction contractors water exposed surfaces in late morning and at the end of the day; the frequency of watering should increase if wind speeds exceed 10 mph. Conditions of approval should also require daily cleanup of mud and dust carried onto street surfaces by construction vehicles.

In addition, haul trucks should have tarpaulins or similarly effective covers to reduce dust generation along truck routes. Exposed areas should be landscaped as soon as is practical to reduce erosion and dust generation. Paving should be completed as soon as possible. Conditions of approval should require that there be a designated person to monitor the dust control program and oversee implementation of dust control strategies. Idling construction vehicles and equipment should be turned off when not in use.

b. Transportation Mitigation

Post project construction mitigations include those offered in the Traffic Section of this report and the policies and procedures recommended in the San Joaquin County Air Quality Maintainance Plan as ammended to date. In addition, the project application should include the following:

1. Limit the number and design of new drive-up window facilities. Each proposed drive-up window facility should be reviewed as it relates to traffic congestion problems. This measure would not reduce vehicle trips, but would reduce congestion and idling times, thereby preventing high carbon monoxide concentrations or "hot spots".

2. The County of San Joaquin should develop an ordinance to induce trip length reduction, reduce the total number of trips and encourage the use of alternative modes of transportation. The goal is to reduce the average number of vehicular trips for home to work commuting to 25 percent fewer trips than would occur if all home to work trips were made in single occupant vehicles. Incentives should be provided to employers shifting their work schedule arrival times to outside the peak hours. A reduction in parking requirements should correspond to the achieved reduction in vehicle trips. In addition, the project development review process affords local developers an opportunity to incorporate features that accommodate pedestrian and bicycle transit and ridesharing. This would include reserved parking spaces for employee ridesharing vehicles at the most preferred locations within a lot at large industrial sites, as well as designating park and ride spaces for both ridesharing and transit users at sites along major transit routes and also providing bus turnouts and passenger waiting shelters.

3. Frequent transit service to the project area from Stockton should be scheduled. This could include employer operated van pools and shuttles.

4. Create an Employer Transportation Council. Employer councils/associations are composed of representatives from local jurisdictions and major employers in the region to coordinate transit and ridesharing services and to plan for and support transportation improvements which would benefit and supplement these services. With both the private and public sectors participating in such a council, there is a strong potential that existing services could become more efficient and effective, and marketing of alternative transportation methods directly from the employer to the employee could increase significantly the level of patronage of the methods.

5. Provide alternative work schedules. Flexible and staggered work hours or a compressed work week tends to spread out peak travel periods, thereby making more efficient use of transit services and ridesharing opportunities. A compressed work week (e.g. 4/40) would also reduce the total trips.

6. As a means of reducing dust created by construction and grading activities, the Air Pollution Control District requests that the applicant take pertinent preventative measures such as covering of trucks, paving of heavily used unpaved areas, sweeping/vacuuming of paved areas, and the use of vegetative cover where paving is not feasible.

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1 California Air Resources Board, Air Quality Data 1986, 1987.
2 Felton, Ernest California's Many Climates, Pacific Books, Palo Alto, 1965.
3 California Air Resources Board, California Surface Wind Climatology, 1984, and California Department of Water Resources, Wind in California, 1978.
4 San Joaquin County Air Quality Management Plan, 1982.
5 San Joaquin Local Health District and Air Pollution Control District, 1985-1986 Reasonable Further Progress Report on Air Quality.
6 U.S. Environmental Protection Agency, Compilation of Air Pollutant Emission Factors, AP-42, Third Edition, 1980.
7 Paul E. Benson, CALINE4 - A Dispersion Model for Predicting Air Pollutant Concentration Near Roadways, Report No. FHWA-CA-TL-84-15, California Department of Transportation, Sacramento, 1984.

C. SERVICES/FACILITIES

1. Water Supply

a. Environmental Setting

The southern portion of the project site is situated immediately west and southwest of the former Occidental Chemical Company's Lathrop facility, which is currently owned and operated by Simplot (Figure 1.). The northern 44 acres is located to the west of the Libby-Owens-Ford (L-O-F) facility on Louise Avenue. Historical research indicates that both sites were primarily used for agricultural purposes. The northern site had two agricultural wells prior to its sale to L-O-F in 1957 or 1958.[1] The southern parcel is currently leased to a local farmer and is being used to raise alfalfa, oats, and sugar beets.[2] He uses three of his own irrigation wells and two irrigation wells from L-O-F. He irrigates eight months of the year. From the unit crop value the current irrigation rates for the 527 acres that are part of the proposed development are approximately 461 million gallons per year (see Table 20).[3]

TABLE 20

ESTIMATES OF WELL PRODUCTION FOR 527 ACRES

	Approximate Acreage	Unit Value Acre Ft./Acre/Yr.	Gallons/Year
Alfalfa	174	4.1	232,326,021
Oats	211	0.9	61,816,257
Sugarbeets	142	3.6	166,903,893
		Total	461,046,171

Due to the history of contamination at the site, the San Joaquin Local Health District would not approve wells for potable water to serve the proposed industrial subdivision.[4] In addition a representative from the Central Valley Regional Water Quality Control Board stated that they would not accept any wells for potable water use or for fire protection that would disturb the current groundwater hydraulic gradient, as this could theoretically interfere with current remediation efforts.[5] The shallow groundwater is generally not suitable for drinking water because of its high conductivity and salinity which is most likely a result of sea water intrusion.[6] San Joaquin County development policies require that water for any major or minor subdivision in

an unincorporated urban center shall be provided by an existing agency that is empowered to provide water supply services.[7]

The project site is located outside the existing water service areas of both Lathrop and the City of Manteca (Figure 14). Both Lathrop and the City of Manteca claim the project site within their spheres of influence. The Local Agency Formation Commission (LAFCO), however, recommended January 20, 1989, that the Lathrop Incorporation territory should be excluded from the Manteca sphere of influence until the incorporation question is resolved by local election in June 1989. Both public service entities, Lathrop County Water District (LCWD) and the City of Manteca claim that they can adequately serve the water needs of this industrial development.

The groundwater aquifers in the Lathrop-Manteca area extend to depths in excess of 600 feet and have been identified to include four formations. From the surface they include the Victor Formation, Laguna Formation, Meahrten Formation and Valley Springs Formation. In general, the strata slopes down from the hills to the east of Manteca providing recharge from hill runoff and from the Stanislaus River. In addition, area water levels are buoyed by the proximity of the Delta channels and recharged from surface irrigation. The combination maintains Manteca-area water levels at 10 to 30 feet above sea level.[8]

Lathrop

Potable water supply in Lathrop is only available from groundwater sources and is provided by the Lathrop County Water District (LCWD). The untreated groundwater is pumped and supplied directly to over 1,600 service connections for residential, commercial and industrial water use and for firefighting purposes. District boundaries, well locations and existing and future mains are shown in Figures 15 and 16.

The District currently has three operating wells, one elevated water storage tank with a storage capacity of 50,000 gallons, and a 400,000 gallon ground-level storage tank and booster pump station. Each well is approximately 270 feet deep.[8] The combined pumping capacity of the three wells is 3,600 gallons per minutes (gpm) or, with the storage tanks the full capacity for fire flow is 3,200 gpm for four hours.[10] Each pump is equipped with a flow meter and from July 1987 to June 1988 the District pumped 415,388,800 gallons of water (Table 21).

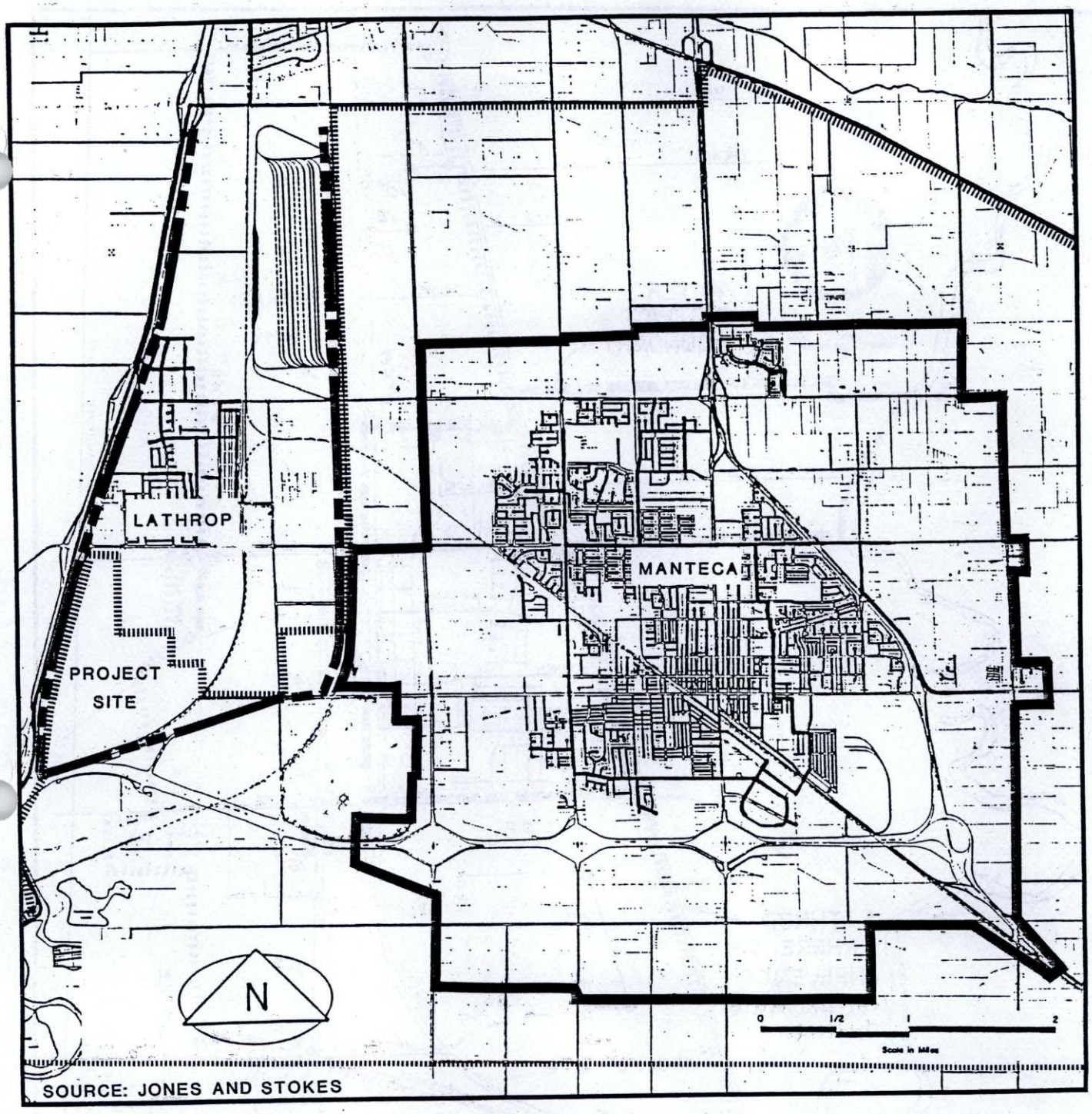


FIGURE 14 LATHROP AND MANTECA SERVICE BOUNDARIES

MILLS ASSOCIATES
Planning and Environmental Services

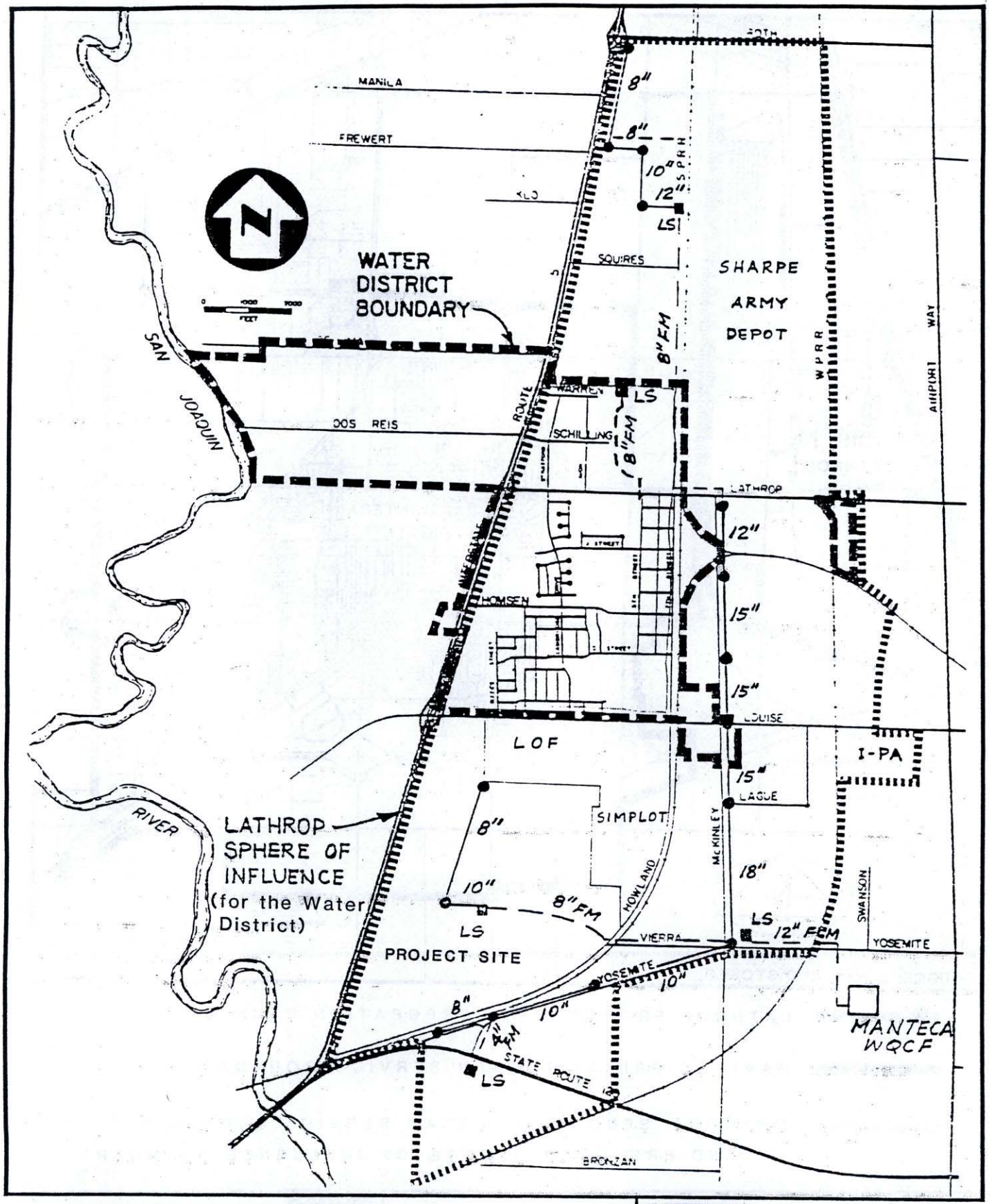


FIGURE 15 LATHROP COUNTY WATER DISTRICT SERVICE AREA BOUNDARIES

MILLS ASSOCIATES
Planning and Environmental Services

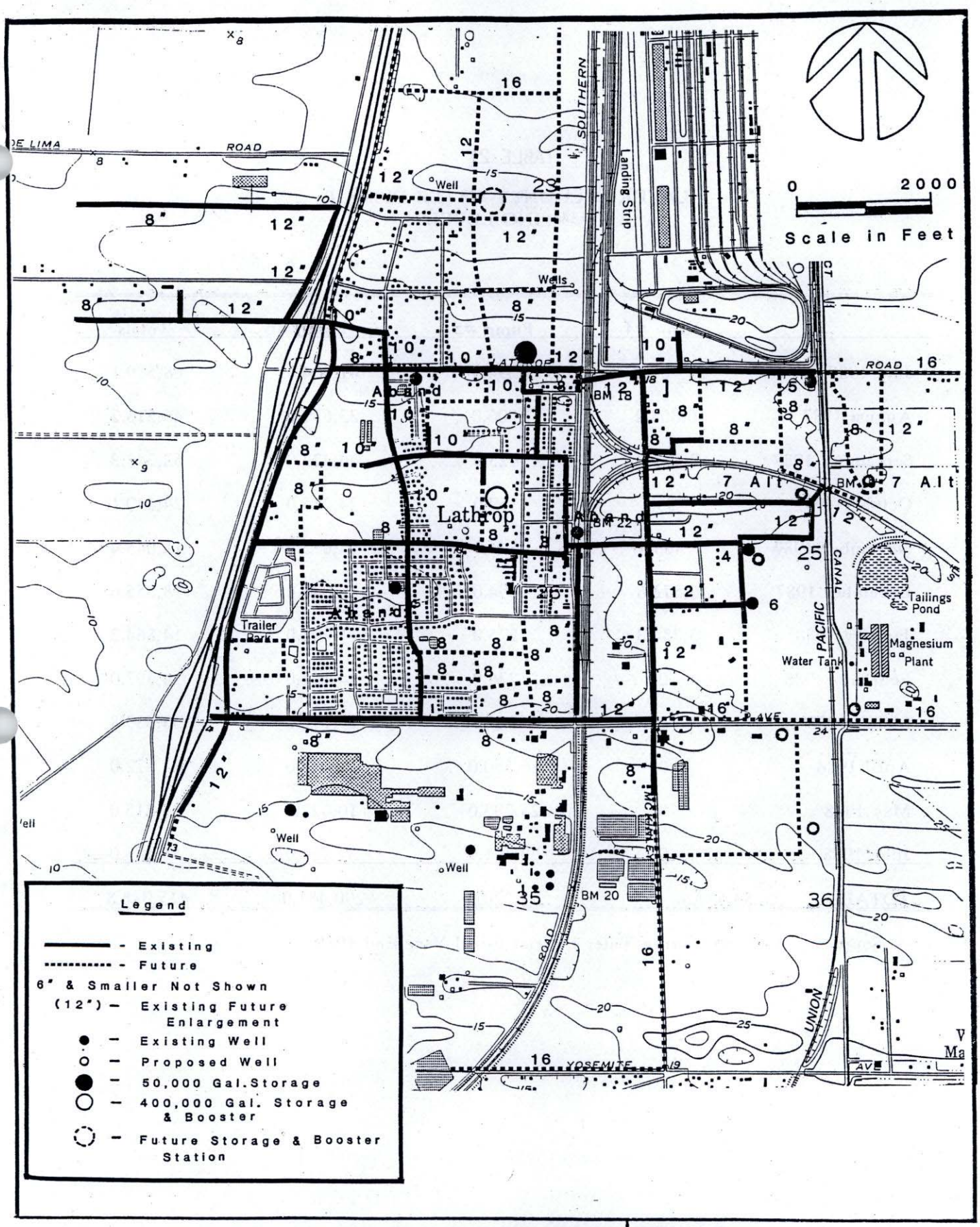


FIGURE 16 LATHROP COUNTY WATER DISTRICT

WATER SYSTEM FACILITIES

MILLS ASSOCIATES
Planning and Environmental Services

TABLE 21

LATHROP COUNTY WATER DISRICT
PUMPING LEVELS

	Pump #4	Pump #5	Pump #6	Totals
July 1987	23,781.1	3,394.0	41,404.0	68,579.1
August 1987	10,808.2	2,006.0	33,699.0	46,513.2
September 1987	8,497.3	423.0	44,422.0	53,342.3
October 1987	55.1	159.0	24,226.0	24,440.1
November 1987	486.4	544.0	14,615.0	15,645.4
December 1987	6,572.6	894.0	11,089.0	18,555.6
January 1988	3,384.3	275.0	11,205.0	14,864.3
February 1988	0	236.0	24,161.0	24,397.0
March 1988	2.8	945.0	29,712.0	30,659.8
April 1988	0	16,550.0	11,022.0	27,572.0
May 1988	0	25,293.0	10,022.0	35,315.0
June 1988	0	20,601.0	34,904.0	55,505.0
TOTAL	53,587.8	71,320.0	290,481.0	415,388.8

Source: Lathrop County Water District Fiscal Year End 1988.

The existing water distribution network consists of approximately 13,000 feet of 12-inch line[11] and appears to be in good repair and operation.[12] The District can meet present sustained water demand and pressures required for fire fighting purposes of 3000 gal/min for 2 hours.

Construction is about to commence on a fourth well (well #7) and it is anticipated that it will be operational by June 1989. The pumping capacity could be increased by 1200 gpm when the new well goes into operation, although the District may choose only to use the new well during peak summer demand periods and switch to the lower yield well #4 for winter use. This would in effect increase the pumping capacity by 600 gpm.

Two wells were closed in 1984 and 1985 due to caving problems and water quality deterioration.[13] According to this report, heavy pumping of groundwater has caused the water table to drop by as much as 50 feet in the area east of Stockton and by 10 feet in the area east of Lathrop. This has resulted in significant water quality deterioration just west of Lathrop due to the intrusion of brackish water from the Delta. In addition, the danger of contamination of the groundwater from both the Occidental Chemical Company spills and Sharpe Army Depot threaten shallow groundwater sources.

Lathrop County Water District maintains that presently they do not have significant water quality problems. Current water quality data indicates that the present well system is producing water of adequate quality (Table 22) as compared with State Drinking Water Standards. The total dissolved solids for the LCWD water supply is generally between 250 - 400 mg/L.[14]

Lathrop has approved or has pending approximately 16 new subdivisions as of December 1988. Given a design estimate of 185 gallons per capita per day and on the average 3.5 persons per dwelling, the allocated water for the 1270 unoccupied units included in these 16 subdivisions is 300,148,625 gallons per year.[15] This represents a guaranteed increase in groundwater demand from the existing 415,388,800 gallons per year to 715,537,425 gallons per year, an increase of 72 percent above current levels of production.

Manteca

The City of Manteca owns and operates the major water distribution system serving 13,233 service connections in 1988. The Raymus Village Subdivision, located in the northeast portion of the City, is served by the Raymus Village Maintenance District. The Spreckels Sugar Refinery has its own water system.

TABLE 22

TYPICAL WATER QUALITY
LATHROP COUNTY WATER DISTRICT

	Well #4	Well #5	Well #6	State Standard
Hardness	168	75.5	162	No Standard
Chloride	50.9	19.3	70.2	500
Sulfate	24.6	13.5	12.1	500
Nitrate	10.3	15.2	15.3	45
Fluoride	0.19	0.22	0.20	1.0
Calcium	39.8	19.0	41.0	No Standard
Magnesium	16.9	6.4	14.5	No Standard
Sodium	38.9	30.6	36.8	No Standard
Iron	0.1	0.1	0.1	0.3
Manganese	0.01	0.01	0.01	0.05

Source: LCWD 09/08/88.

The City's potable water supply is only available currently from groundwater sources. The City's system includes 15 wells, various water distribution lines and a single 300,000 gallon elevated storage tank. The wells vary in depth from 140 to 382 feet.[16] (Refer to Appendix C for a map of the City's public water sources and well information.)

Wells #1, #2, #3, #4, and #5 are unsealed and do not meet State Health Department standards for potable water wells. Well #6 is used only in emergencies because of its poor water quality. The water from wells #1 and #2 is high in iron and manganese, while the water generated from well #6 exceeds the State Drinking Water Standards for DBCP. In addition, the water from wells #12 and #14 exceeds the State Drinking Water Standards for manganese; the City has started to chlorinate the water generated from these two wells to minimize taste and odor problems.[17] The rest of the water produced by the City's well system is distributed without treatment.[18] Historical water quality data is summarized in Appendix C. The total dissolved solids (TDS) data do not indicate a consistently increasing trend, however, the most recent samples represented do include values that are higher than previously recorded (530 mg/L).

The pumping capacity for the fifteen wells is 16,800 gpm. However, given the water quality problems of three of the wells (#1, #2 & #6), the system's sustained supply capacity is estimated to be 14,880 gpm or 21.4 MGD. (Refer to Appendix C.) The annual yield from the City's well system has increased over 360 percent in 24 years (1960-1984) and in 1984 the 14 operating wells produced 2,662 million gallons of water with an average gallons per capita day equal to 225 gallons. The population of the City of Manteca in 1988 was 38,220 and the current annual water consumption rate is approximately 3,000 million gallons per year. (Refer to Appendix C.)

It was recommended in the 1985 Master Plan that additional well capacity (3,500 gpm) was needed to meet the existing system requirements to satisfy peak hour demands.[19] In the addendum report to the City in 1987, Kennedy/Jenks/Chilton, consulting engineers to the City, noted that since the original report was prepared, the City had experienced a significant amount of growth, including plans for nine subdivisions, six tentative maps and two proposed City annexation applications. It was estimated that at buildout these proposed developments will increase water system demands by more than 40 percent over the 1985 demands. In light of the rapid growth the City of Manteca has been experiencing, it was recommended in 1987 that three new wells should be constructed as soon as possible in the outlying areas. It was further recommended that the City should plan to reconstruct or replace wells #3 and #4 to increase their capacity. These improvements

would add 11,000 gpm well supply capacity to the existing system.[20] Since the 1985 report, the City of Manteca has added one new well (well #15) and has increased the capacity of well #12; construction is about to begin on two new wells, one near existing well #9 and another at the Sierra High School site. It is anticipated that these wells will be operational before summer 1989.[21]

It was recommended in the 1968 Master Plan and in the 1985 Kennedy/Jenks report that wells #1, #2, #3, #4, and #5 needed to be renovated and sealed or abandoned. This recommendation has not yet been implemented, however, the City of Manteca Public Works Department indicates that it is planning to gradually phase out these five wells and that any new wells will require 100 feet of casing to protect the water supply from surface contamination.

A computer model analyzing the ability of the City's water system to adequately serve the community in the event of fire was evaluated in the 1985 Kennedy/Jenks report and it was determined that the system as it existed in 1985 was not capable of delivering adequate flows throughout the downtown area due to the lack of transmission pipelines in the area. It was recommended that pipeline improvements and the construction of new wells would alleviate the identified problems. To meet peak hour demands additional pumping capacity or reservoir storage was also indicated.[22]

The developing residential areas on the west side of the City have been served with a 12-inch grid on one-half mile spacing reinforced by in-tract 8-inch and 6-inch distribution pipeline. This provides the newer areas with a very strong distribution system.

Manteca has approved or pending commercial, industrial, residential and institutional development which will increase water demand by approximately 180 million gallons per year. This represents an increase of approximately six percent over current water demand.

b. Environmental Impacts

The existing irrigation wells on site would be abandoned and the applicant would have to obtain the appropriate well destruction permits from the San Joaquin Local Health Department. The pumps would have to be pulled, the casing cut three feet below ground level and the wells filled with concrete. Suspension of pumping for irrigation could improve the Occidental groundwater remediation efforts by effecting a more favorable hydraulic gradient by eliminating the draw of over 400 millions gallons annually. The cessation of pumping, however, could have an adverse effect on the already high ground water table on the

project site. Verification of the actual affects of the elimination of irrigation pumping should be monitored and possibly mitigated if groundwater levels rise precipitously. This impact will be fully considered under the Flooding Section.

The proposed water use for the project is estimated to be approximately equal to the sewage generation rates, plus landscaping requirements. If approved by the County and CVRWQCB, the applicant may want to retain one current irrigation well for landscape purposes.[23] If this should occur, the water needs would equal the sewage generation rates of approximately 380,000 gallons per day (gpd) at buildout. This equals 138.7 millions gallons annually. In addition, the project engineer is estimating fire flow requirements at 3,000 gpm for a two-hour duration and is planning a 500,000 gallon ground-level storage tank with booster pumps.

The developer of the proposed project would have to purchase the land and install a well regardless of which agency serves the site. The well would probably be located between Manteca and Lathrop and the overall environmental impacts would be the same. There would be an increased drawdown of the groundwater possibly encouraging the increased intrusion of brackish water from the Delta channels to the west. This intrusion threatens the existing LCWD water supply because District wells are between the Delta and the project well sites, whereas all of the Manteca water supply wells are to the east.

Lathrop

The district engineer stated that LCWD can serve the proposed project with water.[24] The District has specified that the developer would have to acquire the property and water rights and finance the development of a new well that would then be dedicated to LCWD. The developer would also have to provide adequate storage and pumping for fire flows, provide the utility infrastructure on-site and install a 16-inch main from the terminus of the present line just south of Louise Avenue and McKinley Avenue to the proposed project site and also install the continuation of the loop with a 12-inch main along Harlan Avenue (see Figure 15). The District's minimum pipe sizing requirements exceed the project demands, but the District has a reimbursement policy by which the original developer can be reimbursed for a period up to 10 years by any future development that utilizes these lines. The environmental impact of the extension of the existing water distribution network is that it possibly hastens the industrial development along McKinley Avenue and Vierra Road (see Figure 15). These impacts will be more fully discussed under Growth Inducing Effects.

The water needs of the proposed project plus existing LCWD demand and pending and approved developments would bring the annual groundwater draw to 854,237,425 gallons, an increase of over 100 percent compared with current levels. This increased demand could adversely affect groundwater quality by exacerbating the existing saline intrusion into the aquifer. The project water requirements, however, are substantially less than the present agricultural demand on the groundwater supplies. Therefore, if most or all of the agricultural wells are taken out of operation, it could be argued that the project would have no net impact on the groundwater supplies in the immediate Lathrop area. The project, however, would be replacing brackish, somewhat contaminated irrigation water for a much higher quality water delivered from LCWD.

Manteca

The City of Manteca has guaranteed the applicant adequate water service for the development of the subdivision whether or not Manteca annexes the site.[25] The City has specified that the developer would have to provide the utility infrastructure on-site and install at his own expense the necessary piping network to connect the project to the existing City of Manteca water mains. The current water distribution lines extend to within approximately 1300 feet of Airport Way along Yosemite Avenue on the west side of Manteca.[26] The developer would have to extend these lines over 9600 feet along Yosemite Avenue and Vierra Road to the project site. In addition, the developer would have to provide the land, hardware and water rights for all new water wells and water storage required for the proposed development and for any proposed development of the contiguous land that would be annexed along with the project site (see Figure 14). The developer would be required to dedicate all of these improvements to the City. If the City requires installation of utility lines larger than are necessary to serve a proposed development, the developer is eligible for reimbursement of excess costs in accordance with the City's Utility Lines Reimbursement Policy.[27] The environmental impact of the extension of the existing water distribution network is that it would precipitate rapid residential or industrial development along Yosemite Avenue and Vierra Road. These impacts will be more fully discussed under Growth Inducing Effects.

The water needs of the proposed project plus existing City of Manteca demand and pending and approved developments would increase the groundwater demand of the City of Manteca to 3,320 million gallons, an increase of approximately 11 percent over present levels. Whereas the project's water needs do not threaten the existing water supply for Manteca, the existing

identified problems with fire flows, unsealed wells and contaminated water sources should be remedied before significantly extending the existing system.

c. Suggested Mitigation Measures

To minimize the impact of the proposed development in such a water sensitive area as the San Joaquin Valley, the following water conservation measures should be incorporated into the design of the project: Establish tenant water use policies and ensure that all prospective tenants are apprised of the water-restricted nature of the development; install low-flow toilets, faucets and showerheads in all facilities; use drought-resistant plant species for landscaping and drip irrigation where practical; and, post water conservation awareness bulletins in guest rooms for out-of-area hotel guests.

Lathrop

There is a legitimate question of whether the proposed project would adversely affect the groundwater in the vicinity of Lathrop. The proposed project would suspend irrigation pumping on-site and exchange it for off-site pumping at a reduced rate. To determine if there is an impact, monitoring wells should be established concurrently with project development and the data should be coordinated with San Joaquin County groundwater monitoring efforts to more firmly establish the extent of brackish water intrusion into the Lathrop well system. If it is established that the cumulative effects of the current level of development in Lathrop is contributing to the deterioration of the existing groundwater sources, attempts must be made at that time to (a) establish strict water conservation measures, (b) develop new wells further away from the Delta channels, and/or (c) enter into negotiations for a sustainable long-term surface water source.

If possible, groundwater monitoring data should be entered into the County groundwater model in order to predict the long-term effects of this level of service. Further, Lathrop, Manteca and the County should jointly establish maximum draw on the groundwater basin and establish a regional growth policy in keeping with the limited groundwater reserves.

Manteca

The recommended improvements to the existing water distribution network, the development of new wells and the elimination of contaminated wells or wells that produce low-quality non-potable water should be effected before further extension of the system. The 1987 Kennedy/Jenks/Chilton addendum report to the Water System Master Plan recommended that

an additional 11,020 gpm of additional water supply was needed just to adequately serve the existing developments and the recently approved subdivisions. These improvements should be completed before the City of Manteca considers serving a remote major industrial subdivision.

2. Sewage Disposal

a. Environmental Setting

The proposed project site is not suitable for on-site sewage disposal because of the high water table, the history of groundwater contamination under the site and the County ordinance mandating service by an existing public wastewater disposal agency for major or minor subdivisions in the County.[28]

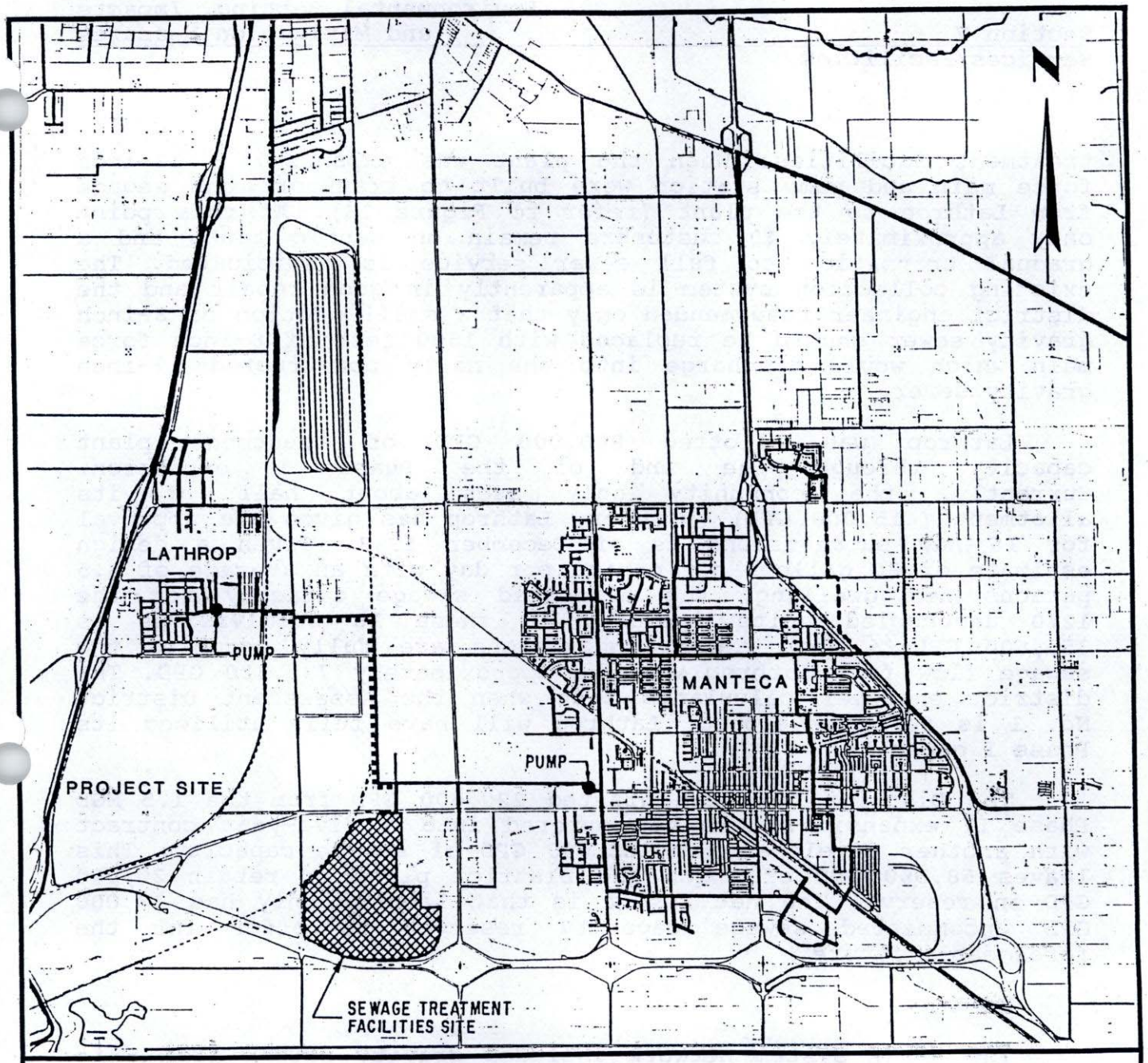
The two agencies which could serve the site are the Lathrop County Water District (LCWD) or the City of Manteca, however, the project site is located outside the existing sewer service boundaries of each district. The sewage from both communities is conveyed to the Manteca Regional Wastewater Treatment Plant (refer to Figure 17).

The treatment plant, which was expanded from 3.4 MGD to 5.45 MGD (phase I) in 1987, provides secondary treatment through the use of intermediate biotowers and an activated sludge process. Sludge handling is provided by thickening, anaerobic digestion, dewatering on paved drying beds, and on-site agricultural land application. During nonirrigation months, effluent is disposed into the San Joaquin River; during the irrigation season, the effluent is applied to 390 acres of City-owned and -leased land.[29] Currently, the plant is treating approximately 3.75 MGD daily. The plant is currently meeting its NPDES (National Pollutant Discharge Elimination System) permit requirements as required by the Central Valley Regional Water Quality Control Board and the EPA.[30]

Manteca is currently planning the phase II expansion of the treatment plant facilities to 6.95 MGD. The proposed plant expansion would consist of the following additions: primary sedimentation tank, aeration basin, aeration blower, secondary clarifier, return sludge pump, and four sludge drying beds. If the plant is expanded before the end of the grant planning period in 1994, the EPA may demand the return of the grant money that financed the phase I expansion.[31] This point is still being contested between City officials, the State Water Control Board and the EPA.

Lathrop

Before the expansion of the Manteca Wastewater Treatment Plant, the residents of Lathrop were either on individual septic systems or connected to one of two small neighborhood



MAJOR SEWER MAIN – 8 INCHES

(NOT ALL 8 INCH INTERNAL LINES INCLUDED)

FORCED MAIN

0 1/2 1 2

Scale in Miles

FIGURE 17 MANTECA SEWER SERVICE

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treatment facilities. When the plant was expanded, a 12-inch force main and pump station were built to transport the sewage from Lathrop to the plant (refer to Figure 18). At this point only approximately 40 customers remain on septic tanks and a gradual transition to full sewer service is anticipated. The existing collection system is apparently in good repair and the district engineer recommended only that a small section of 8-inch gravity sewer should be replaced with 1500 feet of 8-inch force main which would discharge into the newly constructed 12-inch gravity sewer.

Lathrop was allotted 800,000 GPD of treatment plant capacity through the end of the Phase I expansion. Currently, the community only uses about half of its allotment (415,000 GPD), however, Lathrop has given the approval for 16 new subdivisions as of December 1988. Given a design estimate of 80 gallons per capita per day with an average of 3.5 persons per dwelling, the allocated sewage capacity for the 1270 unoccupied units included in these 16 subdivisions is 355,600 GPD.[32] When these subdivisions are fully occupied the sewage flow from Lathrop will be approximately 735,320 GPD. The district engineer calculates that when the Assessment District No. 1 is fully developed, Lathrop will have fully utilized its Phase I capacity.

The District has been granted 220,500 GPD from the 1.5 MGD Phase II expansion. LCWD has entered into a five-year contract with another developer for 162,000 GPD of sewage capacity. This leaves 58,500 GPD of which the District plans to retain 20,500 GPD in reserve. The net result is that Lathrop only has 38,000 GPD uncommitted sewage capacity reserves to offer for the foreseeable future.

Manteca

The sewer system network includes gravity sewers from 6 to 36 inches in diameter, 8,600 feet of 8-inch force main from Raymus Village to the east side of Highway 99 at Louise Avenue and two pump stations.

Currently, the average daily flow to the treatment plant (3.75 MGD) is under the design capacity of 5.45 MGD. The City of Manteca has recently approved or pending commercial, industrial, residential and institutional development which will increase its contribution to the sewage flow by at least 316,000 GPD. This increase in combination with the planned Lathrop increase will total more than 700,000 GPD. This will bring the average daily flow to 4.45 MGD. The City of Manteca Public Works Department estimates that a significant number of previously approved development projects have been completed but are not yet occupied and therefore are not contributing to the present average daily

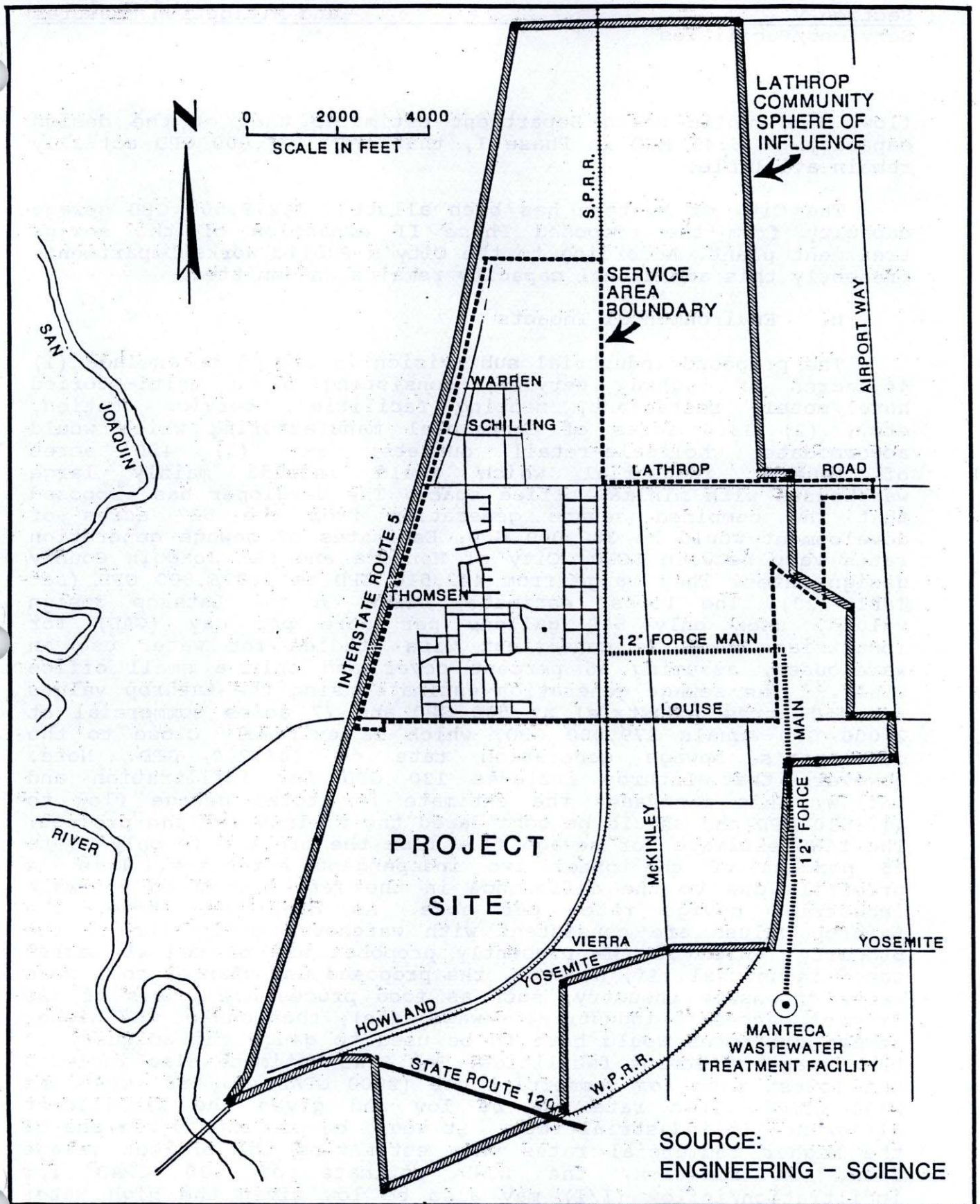

FIGURE 18 PROPOSED SEWER IMPROVEMENTS

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flow. The Public Works Department estimates that of the design capacity of 5.45 MGD in Phase I, that only 118,000 GPD actually remain available.

The City of Manteca has been allotted 1,279,500 GPD sewage capacity from the proposed Phase II expansion of the sewage treatment plant. According to the City's Public Works Department, presently this additional capacity remains uncommitted.

b. Environmental Impacts

The proposed industrial subdivision is slated to include (1) 44 acres of highway service, consisting of a multi-storied hotel/motel, restaurant, meeting facilities, service station, etc., (2) 33.6 acres of commercial manufacturing which would accommodate wholesale-retail outlets, and (3) 450 acres of general industrial which would include mainly large warehouses with minimal office space. The developer has proposed that the combined sewage generation from the 527 acres of development would be 380,000 GPD. Estimates of sewage generation rates vary between LCWD, City of Manteca and San Joaquin County design rates. They range from 447,510 GPD to 2,376,800 GPD (see Table 23). The lowest estimate, based on the Lathrop design values, uses only 500 gallons per acre per day (GAD) for industrial which is consistent with studies for water use in warehouses, assuming 45 percent cover and only a small office staff.[33] The sewage generation estimate using the Lathrop values for 450 acres industrial at 500 GPD and 77 acres commercial at 2,000 GPD equals 379,000 GPD, which is extremely close to the developer's sewage generation rate of 380,000 GPD. Note, however, that Lathrop includes 130 GPD for infiltration and inflow. This increases the estimate for total sewage flow to 447,510 GPD and should be considered the minimum for the project. The LCWD estimate for sewage flow from the project is only 19 to 25 percent of the other two independent estimates. This is primarily due to the difference in the factor used to estimate industrial sewage rates per acre. As mentioned above, the Lathrop values are consistent with warehouse occupation of the property, which is the presently proposed use of the 450 acres zoned industrial. If, however, the proposed use changes to a more water intensive industry, such as food processing (basis of the City of Manteca's industrial sewage rate), then one of the higher sewage estimates would have to be used to gauge the adequacy of the sewage treatment facilities. The LCWD estimate also includes the lowest rate for commercial use (2000 GPAD vs. 2500 GPAD and 2400 GPAD). This rate may be low and given the significant difference in industrial rates, it would be prudent to use one of the higher commercial rates when estimating the project sewage flow. In addition, the LCWD estimate of 130 GPAD for infiltration/inflow (I/I) may also be low given the high water table of the project site. Typical I/I design allowances range

TABLE 23

ESTIMATES OF SEWAGE GENERATION RATES (GPD)

	Sewage	Sewage + I/I
Developer	275,000-380,000	--
San Joaquin County[a]	1,767,000	--
LCWD[b]	379,000	447,510
City of Manteca[c]	--	2,376,800
Hybrid[d]	--	592,200

a 2500 GPAD - commercial
3500 GPAD - industrial
Not specified if these values include I/I

b 2000 GPAD - commercial
500 GPAD - industrial
130 GPAD - I/I

c 3400 GPAD - commercial
4700 GPAD - industrial

d 3400 GPAD - commercial
500 GPAD - industrial
1200 GPAD - I/I

from 140 to 300 GPAD (Montgomery, 1980). Studies in Manteca have shown that maximum monthly inflow averaged about 180 GPAD with a peak areal inflow of 600 GPAD for the existing sewer system. Using this information, an I/I rate of 200 GPAD may be a more accurate estimate for this project site. For this report, the hybrid estimate of 592,200 GPD (Table 23) will be used for the completed project sewage generate estimate.

The Manteca Regional Wastewater Treatment Plant currently has the capacity to serve this development since the plant is under its design capacity of 5.45 MGD. The major environmental impact would be the growth-inducing aspects of the proposed 8-inch force main. If Lathrop were to serve the development, the district engineer proposed that a mid-site lift station and an 8-inch force main would be required to convey the subdivision's sewage to the plant. This would include approximately 5030 feet of line along Vierra Road and Yosemite Avenue which the developer would qualify for reimbursement by subsequent development in the next 10 years. If the City of Manteca were to be the agency to serve the site, the route of service connections would be identical to those proposed by LCWD. Although City of Manteca personnel were unable to specify the exact line sizes, etc., they did specify that the developer would be required to dedicate all of these improvements to the City. If the City requires installation of utility main lines larger than are necessary to serve a proposed development, the developer is eligible for reimbursement of excess costs in accordance with the City's Utility Lines Reimbursement Policy.[34] The main environmental impact of expanding the sewer service boundaries of either community to include the proposed industrial development is that it opens the area along Vierra Road and Yosemite Avenue for development more rapidly than without the project. These impacts will be more fully discussed under Growth Inducing Effects.

The project will increase the load at the Manteca Regional Wastewater Treatment Plant and this will in turn increase the sludge production rates, effluent discharge, energy requirements, etc. These will be the same, regardless which agency serves the site.

Lathrop

Except for approximately 38,000 GPD, Lathrop's sewage treatment capacity at the Regional Wastewater Treatment Plant is fully committed. It might be possible for the developer to purchase the 162,000 GPD capacity that has been reserved by contract, however, the 162,000 GPD plus the remaining 38,000 GPD only gives the project 200,000 GPD of capacity. It was determined that the project at buildout will need a minimum of 592,200 GPD. This solution at best only accommodates 34 percent

of the proposed project's sewage needs. If the developer is unable to attain the 162,000 GPD reserve capacity, then Lathrop can only meet six percent of the projected needs of the project without further expansions in the Regional Wastewater Treatment Plant or the construction of a new facility, both of which are long-term solutions in the future.

If the developer were to obtain the 162,000 GPD reserved for the other developer, and if the remaining 38,000 GPD were given to this project, there would be no further sewage capacity for Lathrop. Therefore any further development, be it industrial, commercial or residential, would be suspended until additional sewage capacity could be developed. One possibility is that Lathrop could purchase more capacity at the Regional Wastewater Treatment Plant from Manteca, however, it is unclear if this would be a realistic political option.

Manteca

The City of Manteca Public Works Department has reserved 75,000 GPD of the remaining uncommitted 118,000 GPD sewage flow from the Phase I expansion for this project. This leaves only 43,000 GPD for residential, commercial and industrial development in Manteca. Once this allotment has been committed, the plant will be at its design capacity and a building moratorium will result until the treatment plant expansion (to 6.95 MGD) scheduled during Phase II is completed. Of the 1,279,500 GPD additional capacity set aside for Manteca from the Phase II expansion, 75,000 GPD has been promised to this industrial development. The remaining sewage needs of the project will have to be deferred until a third plant expansion is completed in the indefinite future. The City of Manteca has promised the applicant 230,000 GPD from this Phase III expansion. As noted above, however, the project may actually need closer to 447,000 GPD at its completion. The size of the third plant expansion has not been specified, but if the City of Manteca is to serve the site, this higher sewage flow should be used to estimate the project's contribution.

c. Suggested Mitigation Measures

Regardless of who serves the site, the proposed project will require new collection and transmission lines to access the treatment plant. Collection lines would likely be gravity fed, while the transmission line would require an 8-inch force main.

If Manteca is to serve the project site, further data should be made available to enable an evaluation of how much excess treatment plant capacity has been allocated to other approved projects.

If LCWD is to serve the project site, they will have to purchase additional capacity at the treatment plant.

An additional option if the site is annexed by LCWD is that Manteca could still provide sewer service through a special district. Again, Manteca would have to demonstrate that their excess capacity at the treatment plant has not been allocated to other projects. If the City of Manteca is to serve the site, higher sewage flows should be used to estimate the project's contribution.

3. Fire

a. Environmental Setting

The project site is within the Manteca-Lathrop Rural Fire District (MLRFD). The MLRFD has three stations. Station 1, the headquarters station, is located in Lathrop at 800 East J Street. Station 2 is located in Manteca on Union Road and Station 3 is located at Lathrop and Austin Roads, approximately 1-1/4 miles east of Highway 99.[35]

The District's firefighting force presently consists of 26 paid personnel and 21 volunteers. Station 1 is manned on a 24-hour basis by one battalion chief, one captain, and three firefighters. Seven off-duty firefighters and seven reserve personnel are also assigned to Station 1. Stations 2 and 3 are each staffed with two firefighters, seven off-duty firefighters and seven reserve personnel.

The Fire District currently maintains a ratio of 1.4 firefighters per 1,000 residents. It is mandatory for all firefighters in the District to be trained and certified as Emergency Medical Technicians (EMTs) within the first year of duty. The District is also prepared with an emergency plan for hazardous materials accidents as well as incidents that may occur due to on-site storage and handling of toxic materials at the industrial sites within their service area.[36] The Fire District maintains three first line pumper trucks, two reserve pumpers, three watertender vehicles and one fully-equipped rescue vehicle.

Primary response to calls for service from the project area would be from Station 1 which is equipped with a full-service rescue unit. Stations 2 and 3 would provide secondary response to the site. The estimated average response time to fires and medical emergencies at the site is three minutes.[37]

The Fire District maintains standards for water supply, water pressure, hydrant spacing, internal circulation and access and provision of sprinklers. Assuming all buildings will be sprinklered to comply with the County Sprinkler Ordinance, fire flow requirements for commercial/industrial development mandate 2,000-3,000 gallons per minute (gpm) depending upon building design features and lot size with a static pressure of 50 pounds per square inch (psi). A minimum pressure of 20 psi is required, and the normally acceptable minimum hydrant spacing for commercial-industrial areas is 300 feet.

During 1988 the Fire District received a total of 1,531 emergency calls. Sixty percent of these calls were responded to out of Station #1. Based on the number of calls received to date this year, the District estimates the annual number of emergency

calls that will be received during 1989 will increase to at least 1,800.[38]

The Fire District is planning for future development of two new substations. One would be located north of Lathrop in the Roth Road area and one would be located in the vicinity of I-5/Louise Avenue. The timing of development of these stations is dependent on the incorporation of Lathrop and the rate of future development occurring west of I-5. Once developed, the new substation at Louise Avenue and I-5 would assume a dual initial response to the proposed project.[39]

b. Environmental Impacts

With the proposed project the demand for fire protection and emergency medical response services provided by the Fire District would be significantly increased. Based on the projected number of calls for 1989, the Fire District estimates that the proposed project could generate up to 450 additional calls per year at full build-out. This would represent a 25 percent increase in the number of calls received annually. At least 10 percent of the additional calls are expected to be generated by the Highway Service uses and would likely be for emergency medical responses, traffic accidents, car fires, etc.[40] As stated above, the average emergency response time to the site is three minutes.

The Fire District estimates three additional paid firefighters will be required as a result of the proposed project. It would also be necessary to purchase additional firefighting equipment because of the multi-storied buildings and large industrial-warehousing units. The Fire District has stated that a ladder truck and an additional pumper would be required.[41]

The County has recently passed a Fire Facilities Fee Ordinance whereby developers are assessed a one-time fee to fund expansion of facilities. This source of funding would be used by the District for the purchase of the necessary equipment. The District also has an override tax in effect to provide additional revenue. Additional staff would be funded through normal tax base revenues. The District estimates that revenues collected from these sources would be adequate to upgrade and maintain adequate equipment and personnel to serve the project area.[42]

The proposed project would include its own 500,000 gallon ground level storage tank with booster pumps for fire protection purposes to augment the existing storage facilities. According to the Fire District, the 500,000 gallon storage capacity of the tank is considered to be minimal for this size project.[43]

c. Suggested Mitigation Measures

1. The applicant would be assessed a one-time fee under the recently enacted Fire Facilities Fee Ordinance to fund the necessary expansion of facilities.

2. Prior to approval of the Final Development Plan for the proposed project, the Fire District should coordinate with the agency providing water services to the site to ensure that the on-site storage tank has adequate capacity to meet the fire protection needs of the project.

4. Law Enforcement

a. Environmental Setting

Law enforcement services to the Lathrop community are provided by the San Joaquin County Sheriff's Department which operates its Patrol Division and jail facilities out of French Camp, south of Stockton. The Department has no substations but operates its patrolling programs on a District basis. The Sheriff's Department provides services to the unincorporated portions of the 1,440 square mile County area. The California Highway Patrol provides traffic law enforcement on I-5.

The Sheriff's Department is currently understaffed and does not provide what it believes is an adequate level of law enforcement services to County residents. While upgrading with additional staff and equipment is necessary, the Sheriff's Department is funded to provide rural police protection throughout the County's unincorporated area. It would not be possible to provide urban levels of protection in most areas without a change in the function of the Department and a substantial increase in cost. The Sheriff's Department's response times are generally longer than those of city police departments. These longer response times are a factor of the size of the area and density of the population served, the level of traffic congestion, accessibility, and the number of incidents occurring at the same time. The size of the area and the density of population to be served determine the size and frequency of the patrol beat.[44]

The project site is located within Patrol District 7 (see Figure 19) which encompasses a very large area extending east and south to the County lines, west to a boundary formed by the San Joaquin River, Lathrop Road, SR 99 and Jack Tone Road and north to S.F.R.R. This area is patrolled on a 24-hour basis by a two-man district car. Emergency and non-emergency response times to the project site vary as all calls are handled on a priority basis. Life-threatening or personal injury calls are given first priority. Information on the total number of calls for service received within District 7 is not available.[45]

The project site is also adjacent to the southern boundary of the Lathrop Community Car District. The Lathrop Community Car District encompasses the portion of Lathrop bounded by I-5 on the west, the S.P.R.R. on the east, Louise Avenue on the south and Warren Avenue to the north. During the daytime hours (8:00 AM - 6:00 PM), these areas are patrolled by one community patrol car. The Community Car District was established by the Sheriff's Department for purposes of responding to types of calls which the Department characterizes as routine non-emergency calls. Many of the calls typically responded to by the community car are received after considerable time has elapsed from the occurrence of the

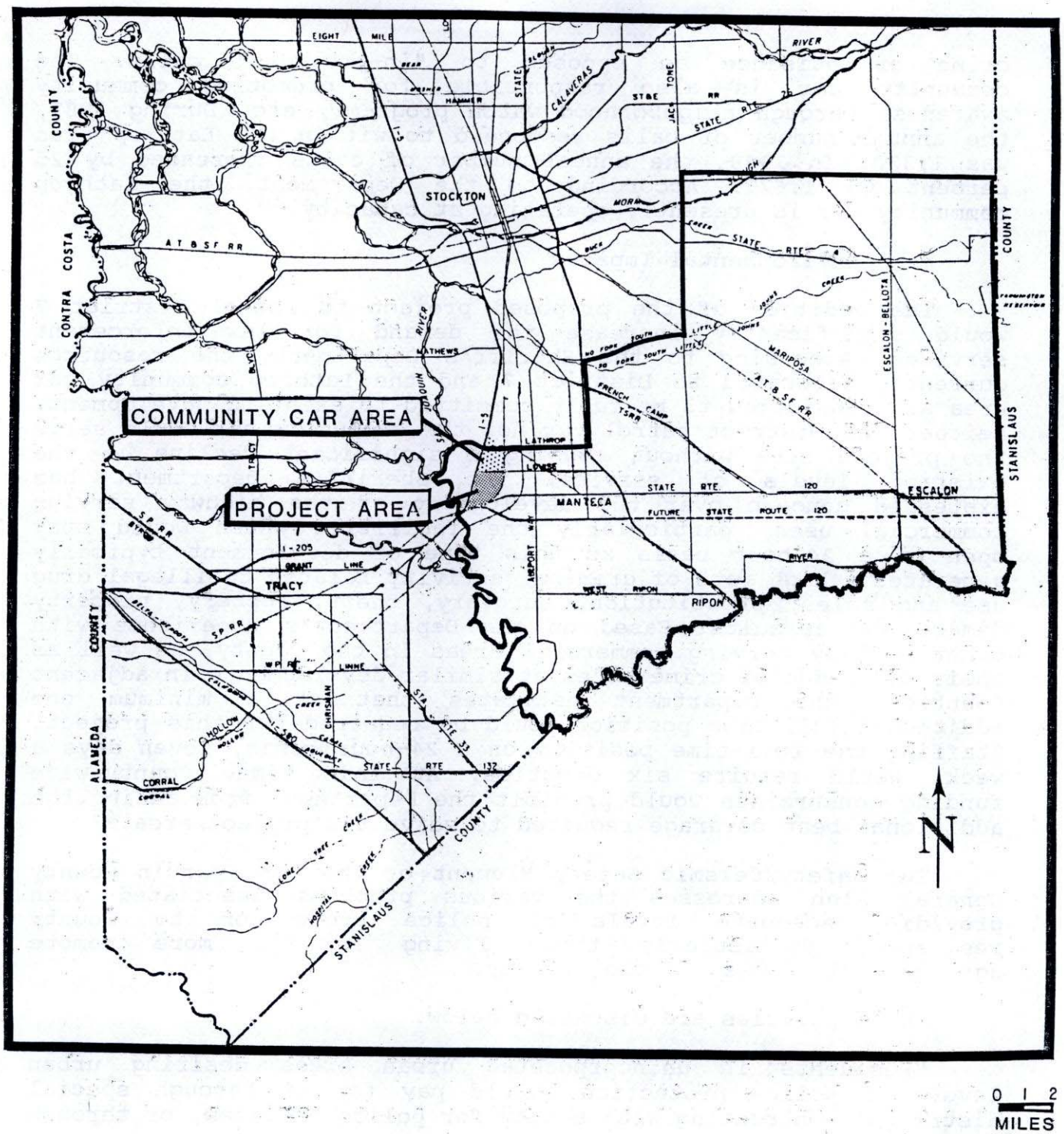

FIGURE 19 SAN JOAQUIN COUNTY SHERIFF'S DEPT. PATROL DISTRICT 7 & LATHROP COMMUNITY CAR AREA

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crime or nuisance as opposed to "in-progress" calls. The community car is also responsible for promoting community awareness through neighborhood watch programs, etc. During 1987, the annual number of calls responded to within the Lathrop area was 1,330. In 1988, the annual number of calls increased by 25 percent to 1,677. According to the Department, the Lathrop community car is presently operating at capacity.[46]

b. Environmental Impacts

The addition of the proposed project to Patrol District 7 would significantly increase the demand for law enforcement services. According to the Sheriff's Department, the resources currently allocated to District 7 and the Lathrop community car area are considered to be fully committed to existing development. Neither the District patrol car nor the community car could serve the project site without causing a significant decline in the existing levels of service. The Sheriff's Department has expressed concern over the development of the highway serving commercial uses, particularly the facilities which would stay open on a 24-hour basis as this type of development typically generates a high rate of criminal activity related to illegal drug use and sales, prostitution, burglary, theft, robbery, property damage and assaults. Based on the Department's experience with other highway serving commercial areas in the County, as well as their knowledge of crime rates at similar developments in adjacent Counties, the Department estimates that at a minimum one additional full-time position would be required for this project. Staffing the full-time position on a 24-hour basis, seven days a week, would require six deputies. At this time, County-wide funding constraints would prohibit the Department from adding the additional beat coverage required to serve the project area.[47]

The Safety/Seismic Safety Element of the San Joaquin County General Plan addresses the various problems associated with providing adequate levels of police protection to County residents, particularly those living in the more remote agricultural areas of the County.

These policies are discussed below:

"Residents in unincorporated urban areas desiring urban levels of police protection should pay for it through special districts, contracting with a city for police services, or through annexation."

As the urbanized portion of Lathrop is expanded, higher levels of police protection are necessary and desired by local residents and merchants. Since the Sheriff's Department does not have the capacity to expand its force to meet the increased demand for its services, the higher level of police protection could be

obtained through the formation of an assessment district, as suggested by the above policy. The Sheriff's Department has recommended that the County Board of Supervisors establish a funding mechanism, such as an assessment district, for financing the additional beat coverage that would be required for the proposed project prior to project approval.[48]

The General Plan also suggests incorporating crime prevention measures to deter crime into final project plans. Such features would, in part, compensate for the lower level of service that would be provided to the project. For industrial and commercial buildings the following general design principles can be applied:

- Landscaping, location of buildings, walls, etc., should facilitate surveillance from the street and from neighboring structures and not provide places for concealment.

- The street system should allow emergency vehicle access around the buildings. Parking, walkways, etc., should be located where surveillance from streets or from an attendant is possible to reduce worker or customer isolation when walking to and from cars.

- Access to buildings or ground groups of buildings, and access between buildings, should be limited so escape routes are fewer and entrance is made more difficult.

- Access to roofs by parking structures, pallets, flagpoles, etc., should be eliminated or avoided.

- Windows should be held to a minimum on the first floor, if possible, and windows made burglar resistant.

- Buffer zones (walls, parks, busy streets) should be provided between industrial and commercial areas, and surrounding areas to make it more difficult to escape unseen.

- If possible, areas should be designed so they can be sealed off when not in use.

- Alarm systems should be installed if possible on a zone basis so the entire area does not have to be sealed off in an emergency.

- Street names and building numbers should be well lighted for easy identification.

The Sheriff's Department also anticipates that building materials would be particularly vulnerable to crimes such as theft and vandalism during the construction period. Because no additional resources would be specifically allocated to patrol the site during this period, it is recommended that the applicant provide private on-site security to deter criminal activity.

c. Suggested Mitigation Measures

1. Existing beat coverage to the area should be upgraded with one additional full-time patrol position. The Sheriff's Department is recommending that the County Board of Supervisors establish a funding mechanism for financing these additional resources prior to approval of the proposed project. One method to be considered is the formation of an assessment district. If a funding mechanism for providing additional resources is not established, the impact on the Sheriff's Department would be significant and adverse.

2. Additionally, the Sheriff's Department recommends that the applicant incorporate crime prevention measures discussed above to deter criminal activities at the site. Private, on-site security also should be provided by the applicant during the construction period and upon completion of the project.

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5 Dan Ward, engineer, Central Valley Regional Water Quality Control Board, personal communication, February 1989.
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18 Joe Hulsey, City of Manteca Public Works Department, personal communication, February 1989.
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28 San Joaquin County Development Requirements, Chapter 3, Sewage Disposal, Section 9-10101(b).
29 Jones & Stokes, Environmental Assessment, Manteca Sewer Plant Expansion Phase II, 1988.
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36 Ibid., Ennes.
37 Ibid., Ennes.
38 Ibid., Ennes.
39 Ibid., Ennes.
40 Ibid., Ennes.
41 Ibid., Ennes.
42 Ibid., Ennes.
43 Ibid., Ennes.
44 Mike Esau, Crime Prevention Unit, San Joaquin County Sheriff's Department, personal communication, February 1989.

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D. HAZARDS AND NUISANCES

1. Hazardous/Toxic Materials

a. Introduction

The project site is in an area of industrial activity with identified hazardous materials problems in the soils and groundwater. General investigations have been conducted at the project site and on surrounding lands to locate and evaluate the presence of hazardous materials, and in connection with the clean-up or remediation of documented contamination problems. A summary of the identified problems and related investigations is provided here.

b. Environmental Setting

1. Hazardous Materials Sources

Sources of hazardous materials on or in the immediate vicinity of the project site have been investigated previously by Woodward-Clyde Consultants (1987) and Kleinfelder (1987). The identified sources of potential concern are illustrated in Figure 20, and highlighted here.

Spills

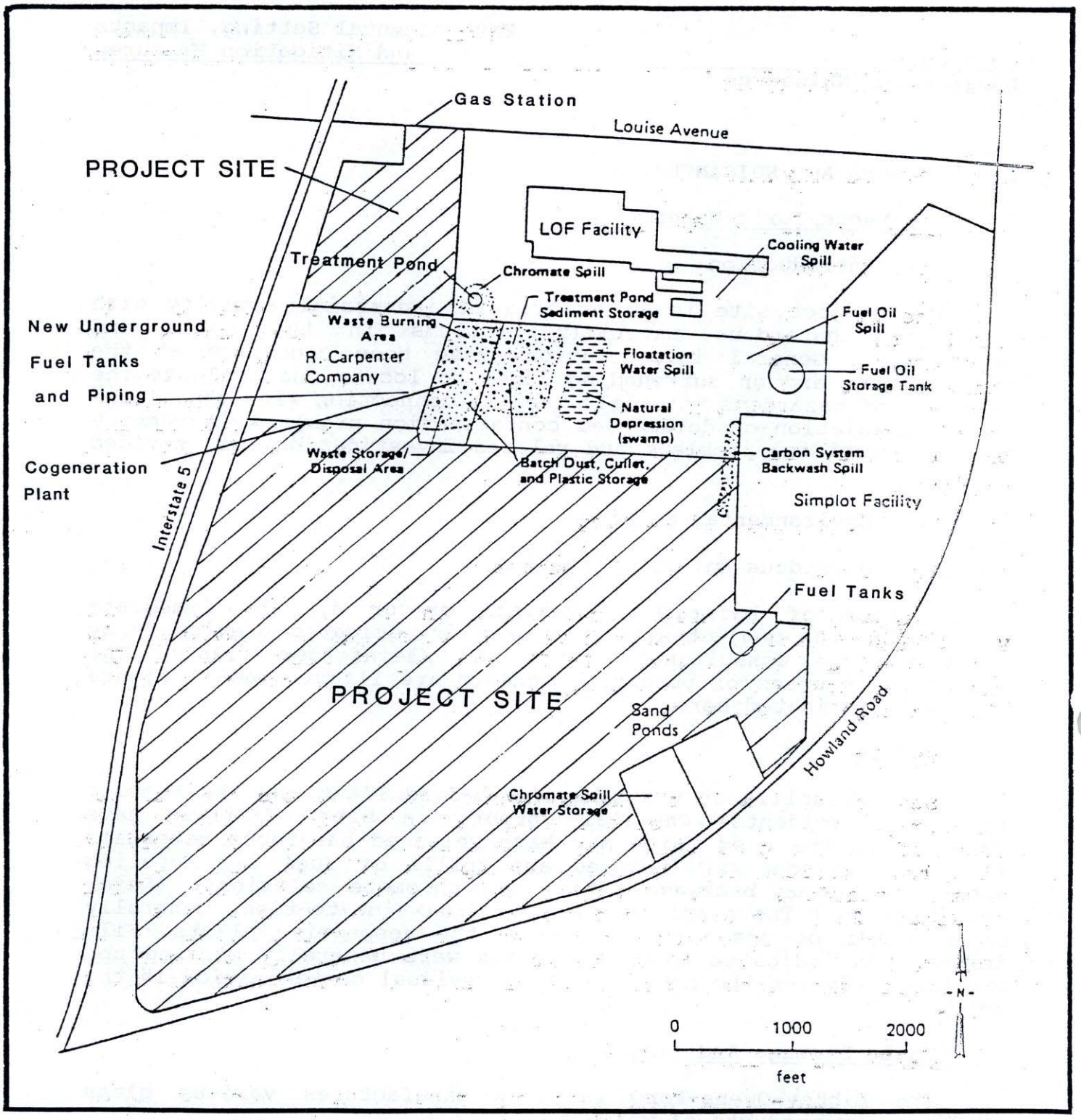
Several spills at the Libby-Owens-Ford Plant and the Simplot (formerly Occidental Chemical Corporation site) facility have occurred in the past which may have released hazardous materials into the environment. Included are spills of fuel oil, cooling water, hazardous backwash water, and chromate solutions. (Refer to Figure 20.) These spills occurred from time-to-time, generally as a result of upset conditions at the respective plants. File information indicates that the spills were generally cleaned up, but there remains the possibility of residual contamination in the soils.

Waste Storage And Disposal

The Libbey-Owens-Ford facility manufactures various glass products, by-products of which are:

- polyvinyl butryal plastic,
- finely divided batch material dust, and
- broken glass (cullet).

The major components of the various glass production wastes and quantities are given in Table 24; and the levels of hazardous materials that could leak out of these wastes are listed in Table 25.



SOURCE: KLEINFELDER ENGINEERS / WOODWARD CLYDE

FIGURE 20 IDENTIFIED SOURCES OF HAZARDOUS MATERIALS

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TABLE 24

MAJOR COMPONENTS AND QUANTITIES OF GLASS WASTE

Material	Component and Percentage	Estimated Total Volume
Windshield Reclamation Waste	60% plastic 25% wood 10% cullet 5% metal	4,500 yds^3
Reclaimed Process Waste	40% plastic 20% wood 20% cullet 10% metal 10% soil	3,900 yds^3
Miscellaneous Wastes	10-60% sand and glass dust 10-40% dolomite 15-25% soda ash 2 -10% limestone 1 - 3% rouge 0.5-2.0% salt cake 0-0.25% cobalt	2,600 yds^3
Total Combined Wastes by Weight	3% plastic 3% metal strips 2% wood 20% cullet 72% glass batch dust	11,000 yds^3

TABLE 25

HAZARDOUS COMPONENTS OF GLASS PRODUCTS AND BATCH DUST

Material	Type of Analysis	Date of Analysis	Analytical Results*			Regulated Limits		Comments
			Compound	Total	Leachable	TTLC** (mg/kg)	STLC*** (mg/L)	
Glass Products								
Bronze	Formulation	N.A.	Cobalt	35		8000	80	
			Selenium	14		100	1.0	
Grey	Fomulation	N.A.	Cobalt	74		8000	80	
			Nickel	85		2000	20	
			Selenium	9.0		100	1.0	
Green-Eye	Formulation	N.A.	Cobalt	9.0		8000	80	
Clear	Formulation	N.A.	No Metals	N.A.		N.A.	N.A.	High soda ash concentrations -- sodium and pH problems.
Windshields	EP Toxicity	10-15-86	Lead		<0.2	1,000	5.0	Painted areas only.
Windshields	EP Toxicity	5-31-85	Lead		3.6	1,000	5.0	Samples from 3 locations on painted edge.
			Lead		4.2	1,000	5.0	
			Lead		2.7	1,000	5.0	
Batch Dust								
Clear	Total Concentration	7-30-87	Magnesium	20		N.A.	N.A.	
			Sodium	169,000		N.A.	N.A.	
			Potassium	30		N.A.	N.A.	
			Carbonate	207,300		N.A.	N.A.	
			Bicarbonate	189,110		N.A.	N.A.	
			Chloride	300		N.A.	N.A.	
			Sulfate	4,320		N.A.	N.A.	
			Nitrate	120		N.A.	N.A.	
			Flouride	interference		N.A.	N.A.	
			Iron	1.0		N.A.	N.A.	
			Manganese	<0.03		N.A.	N.A.	
	WET	7-30-87	Copper	10	N.T	2,500	25	Extraction test perfor performed with 10% solution distilled wat
			Lead	10	<3.0	1,000	5.0	
			Mercury	5.0	<0.1	20	0.2	
			Silver	10	<3.0	500	5.0	
Bronze	TTLC	5-17-82	Selenium	1500		100	N.A.	
			Cobalt	230		8,000	N.A.	
	EP Toxicity	5-17-82	Cobalt		1.4	8,000	80	Citrate buffer
			Cobalt		<0.2	8,000	80	Distilled water
			pH		11.5	N.A.	12	
Unspecified	TTLC	2-26-82	Cobalt	10		8000	80	
			Selenium	400		100	10	
	EP Toxicity	2-26-82	Selenium		0.006	8,000	1.0	
			pH		11.8	N.A.	12	

* Results are in mg/kg except for EP Toxicity and WET which are given in mg/L - both are equivalent to ppm.
** Total Threshold Limit Concentration (total amount in sample).
*** Soluble Threshold Limit Concentration (amount leaching out of sample).
N.A. Not Applicable.

Historically these waste products were disposed of by burning in trenches (12-feet deep by 100- to 200-feet long) located in the area immediately east of the E.R. Carpenter site. Over the years changes in solid waste disposal and air pollution regulations have limited this burning practice, such that all wastes are now taken to Class I and II landfill sites.

The other waste disposal area of potential concern is at the southern edge of the project site, labelled "Sand Ponds." Process wastewaters and sanitary wastes are stored in these ponds, prior to pumping the discharge through an outfall to the San Joaquin River. The water is also used during the dry season for local crop irrigation. Under normal circumstances these ponds do not receive hazardous materials; however, during plant upsets, there have been occasional spills of chromate solutions which have reached the ponds.

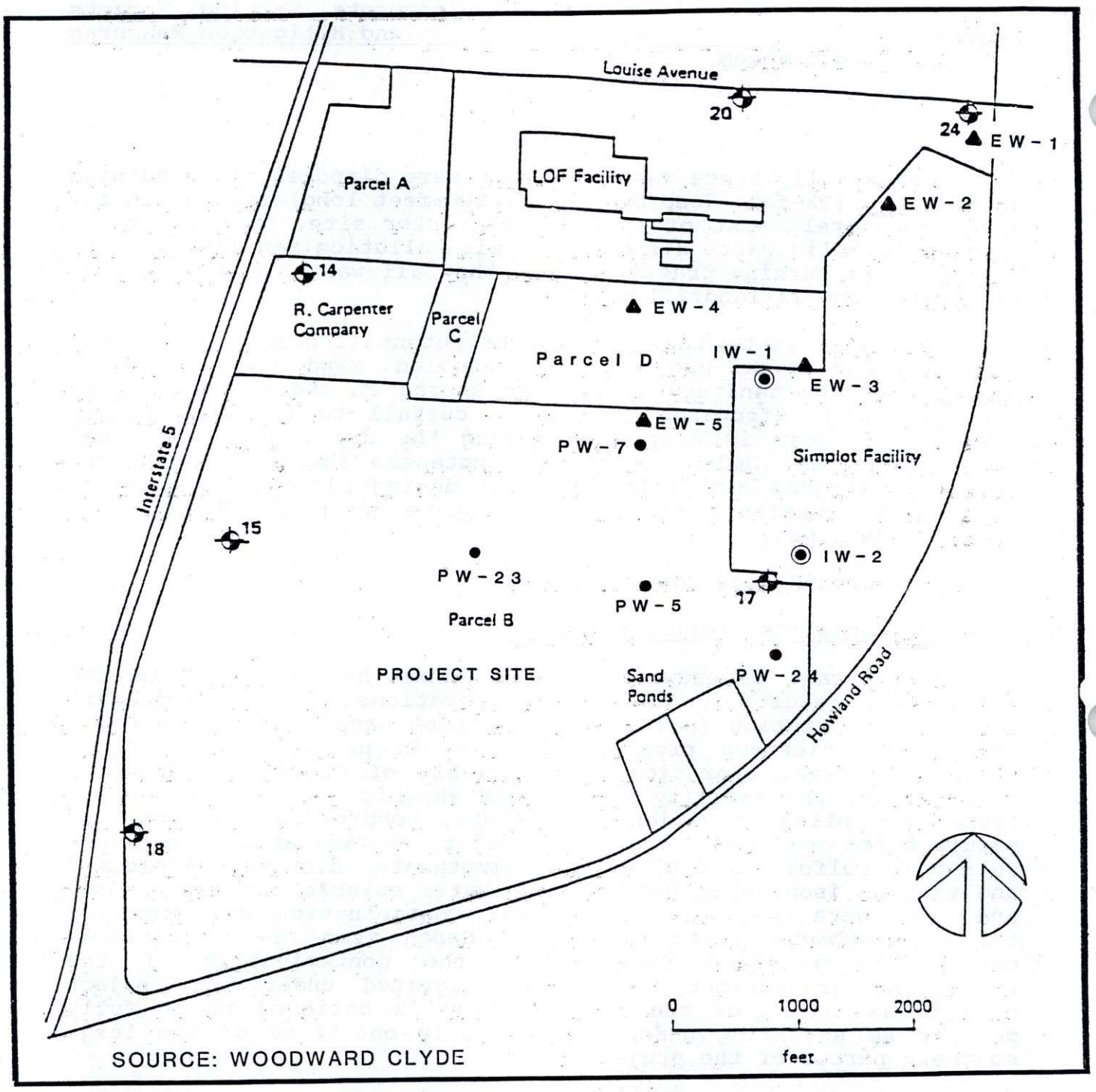
2. Groundwater Contamination

Occidental Chemical Corporation

Significant groundwater contamination has occurred in the area as a result of the former operations of the Occidental Chemical Corporation (now the J.R. Simplot property), and a major groundwater clean-up program has been in progress since 1982. Under the former operation and ownership of Occidental Chemical Corporation, the facility experienced chronic spills and leaching from waste piles of various pesticides, herbicides and fumigants manufactured on the site. The major contaminants are DBCP, sulfates, sulfolane, EDB, delnav, dimethoate, disyston, dieldrin, and various isomers of BHC. The two water soluble fumigants, DBCP and EDB, were the worst offenders. Contamination was found in three groundwater zones ranging in depth from 31- to 218-feet deep.[1] The releases resulted in the contamination of the underlying groundwater which then migrated under the project site.[2] The extent of the contamination is believed to be fully defined as extending under approximately one-third of the large southern parcel of the project.[3]

As a means of remediating the contamination, groundwater extraction wells have been installed in the contaminated area, including one on the project site (Figure 21). In addition there are numerous monitoring wells, four of which are located on the project site. The clean-up operations consist of a program which provides for:[4]

- Pumping of contaminated groundwater from five extraction wells at the rate of 500 gpm;



IRRIGATION WELLS

EW - EXTRACTION WELLS

PW - MONITORING WELLS

IW - INJECTION WELLS

FIGURE 21 WELL LOCATIONS

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- Control of the groundwater gradient by pumping to prevent continued off-site migration of the pesticide residues present in the aquifer system;

- Carbon absorption treatment plant capable of processing the combined 500 gpm flow from the extraction well network; and,

- Two on-site injection wells to return the treated effluent to a deep, isolated saline aquifer.

A schematic diagram of the groundwater clean-up facilities is provided in Figure 22.

The Occidental groundwater contamination site at Lathrop is a California Superfund Site, and is subject to a continuing monitoring and assessment program. The 1987 Annual Report indicated that effective control of the groundwater flow has been achieved and concentrations of DBCP in the affected aquifer zones are decreasing with time; but the rate of groundwater clean up is slowing down. Recommendations have been made to enhance the clean-up effectiveness by increasing the groundwater extraction rates, installing an additional extraction well and converting some of the monitoring wells to extraction use. The Central Valley Regional Water Quality Control Board and the State Department of Health Services who oversee the clean-up operations, have indicated satisfaction with the progress of the remediation. However, they also indicate that the remediation program is expected to continue for 10 to 20 years or more.

Libby-Owens-Ford Plant

Groundwater contamination from oil and gasoline leaks occurred in the past at the Libby-Owens-Ford plants immediately north and east of the project site. The problem has been remediated. It is not thought that the contamination extended into groundwater beneath the project site; although this has not been fully confirmed.[5]

Other Evidence of Possible Groundwater Contamination

An environmental assessment of the project site by Kleinfelder in 1987 utilized organic vapor monitors for detection of possible hydrocarbons in the soil and groundwater. The monitors were located along several property lines of potential concern, as indicated in Figure 23. This testing revealed evidence of the following in the soil or groundwater.

- Hydrocarbons in the vicinity of two storage tanks on the eastern side of the southern parcel;

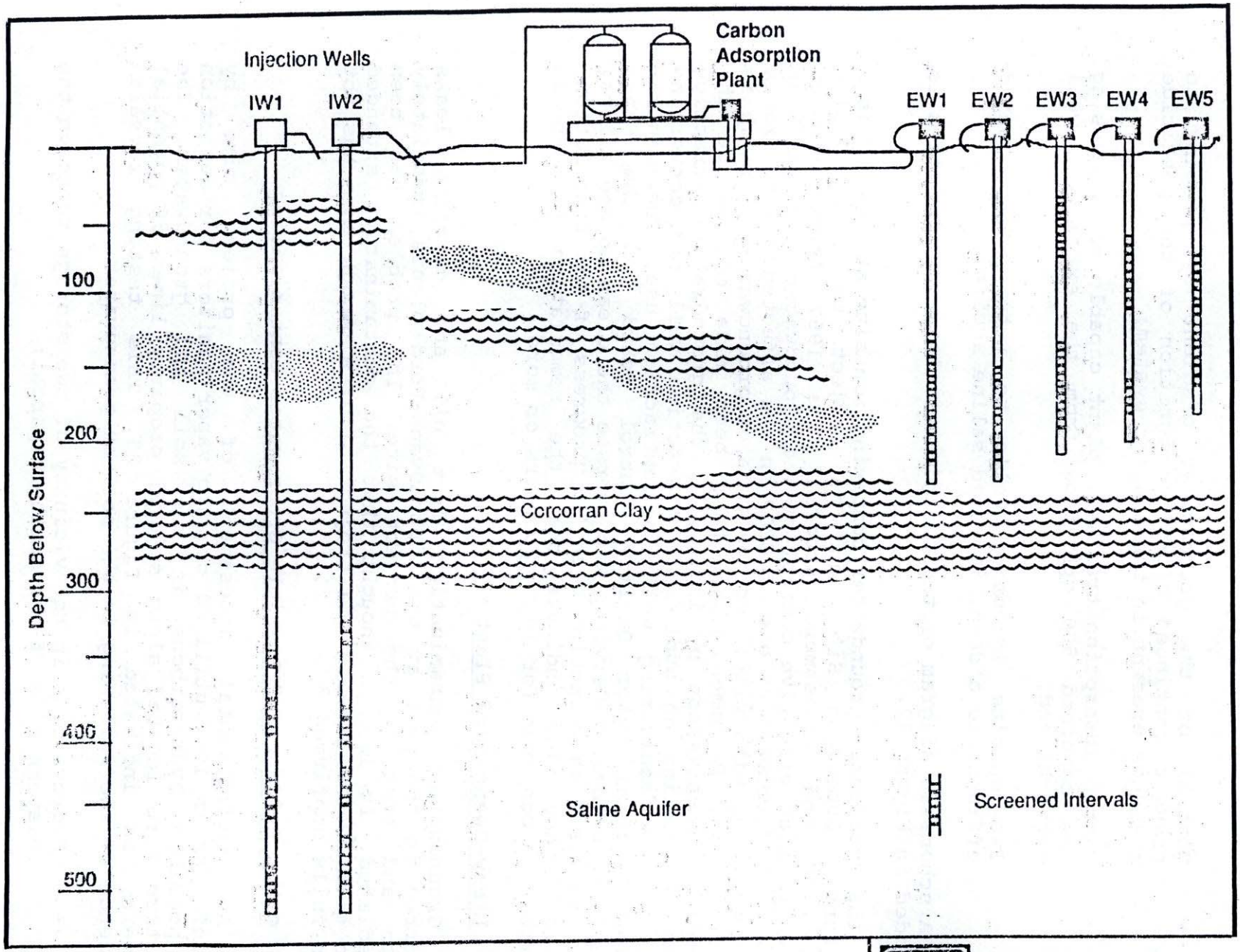

FIGURE 22 SCHEMATIC DIAGRAM OF OCCIDENTAL CHEMICAL GROUNDWATER REMEDIATION SYSTEM

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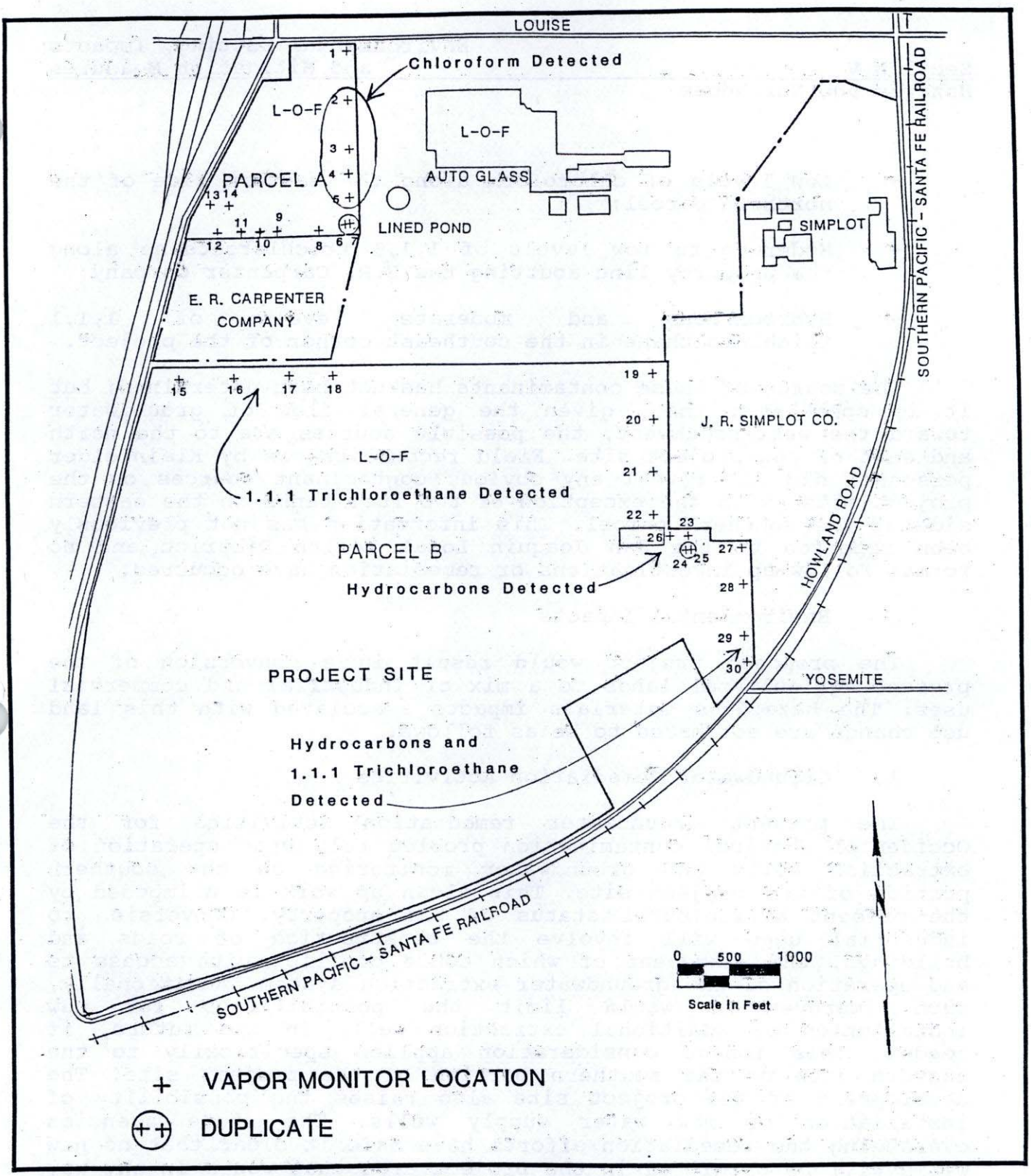

SOURCE: KLEINFELDER ENGINEERS, 1987

FIGURE 23 ORGANIC VAPOR MONITORING INVESTIGATION

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- Low levels of chloroform along the eastern side of the northern parcel;

- Moderate to low levels of 1,1,1 trichloroethane along the property line abutting the E.R. Carpenter Company;

- Hydrocarbons and moderate levels of 1,1,1 trichloroethane in the southeast corner of the project.

The source of these contaminants has not been determined; but it is speculated that, given the general flow of groundwater toward the west-southwest, the possible sources are to the north and east of the project site. Field reconnaissance by Kleinfelder personnel did not reveal any obvious contaminant sources on the project site, with the exception of two fuel tanks on the eastern side of the southern parcel. This information has not previously been reported to the San Joaquin Local Health District and no formal follow-up investigations or remediation have occurred.

c. Environmental Impacts

The proposed project would result in a conversion of the present agricultural lands to a mix of industrial and commercial uses. The hazardous materials impacts associated with this land use change are estimated to be as follows.

1. Groundwater Remediation Activities

The present groundwater remediation activities for the Occidental Chemical contamination problem rely upon operation of extraction wells and groundwater monitoring on the southern portion of the project site. This clean up work is unimpeded by the present agricultural status of the property. Conversion to industrial uses will involve the construction of roads and buildings, the placement of which could conflict with access to and operation of the groundwater extraction system. Additionally, such improvements would limit the possibilities for new installation of additional extraction wells in the future, if needed. This impact consideration applies specifically to the eastern area of the southern portion of the project site. The development of the project site also raises the possibility of installation of new water supply wells. The state agencies overseeing the remediation efforts have made it clear that no new wells will be permitted in the project area that would in any way interfere with groundwater gradient control and extraction operations.

2. Surface Contaminants

The project area is subject to extensive ponding. This coupled with the presence of hazardous materials in surface soils and storage areas on the adjoining industrial sites represents a possible risk to the project site during flooding conditions when the contaminants may be mobilized and transported across property lines. Existing and potential future hazardous material releases on adjoining properties could be brought into contact with people on the project site. The risk to these people would be a function of the type and amount of chemical release.

3. Groundwater Contamination

The volatile chemical contaminants detected in the soils and/or groundwater beneath the southern portion of the project site may pose a potential risk to occupants of enclosed buildings. Such buildings should be planned and designed to assure against the seepage and collection of organic vapors within the building air space at locations where volatile organic contamination of soils or groundwater is known or suspected.

The water table throughout the project site is very shallow, ranging generally from about five to 10 feet below ground surface. Installation of utilities, particularly sewer lines, could encounter groundwater during construction, thus exposing construction workers to toxic chemicals that may be present in the groundwater. Dewatering of contaminated groundwater during construction would be an additional concern. Volatile chemical contaminants that may be present in excavated soils (for utilities and buildings) could also pose a risk to workers. Testing in the area by Woodward-Clyde in 1987 revealed generally low levels of toxic chemicals in the shallow groundwater (to 25 feet); however, the investigation covered only a limited portion of the project site. Kleinfelder's investigation, also in 1987, revealed low levels of volatile organic chemicals in one portion of the site. These findings along with the general history of industrial activity and toxic chemical releases from adjoining properties warrant special care in excavation and construction activities on the project site.

d. Suggested Mitigation Measures

The following measures are proposed to mitigate the potentially significant hazardous materials impacts associated with the proposed project.

1. The project site should be restricted from the installation of water wells that could in any way interfere with the present groundwater remediation efforts in the area.

2. Appropriate easements should be granted and/or retained for access to and operation of the existing groundwater extraction system and monitoring wells connected with the Occidental Chemical site clean up effort.

3. Drainage improvements should be installed in accordance with the recommended mitigation measures outlined in the Flooding Section to eliminate on-site ponding and prevent transport and spreading of hazardous materials that may spill or accumulate at adjoining industrial sites.

4. Building sites known or suspected of being situated over soils or groundwater contaminated with volatile organic chemicals should either be: (a) remediated by removal of the contaminants; or, (b) designed in a manner to prevent volatile chemicals from entering and collecting in an enclosed building air spaces via seeps through the foundation.

5. A site specific health and safety plan should be prepared in connection with and prior to undertaking any building or utility construction on the project site. The plan should establish appropriate procedures and levels of personal protection for minimizing exposure of the field personnel to hazardous materials that may be encountered at the site during construction. The plan should also provide for necessary field testing for detection of hazards and procedures for proper decontamination of equipment and personnel at the end of the day should hazardous materials be encountered. The health and safety plan should be submitted to and approved by the State Department of Health Services.

6. If utility or building construction is likely to require dewatering, sufficient testing of the affected shallow groundwater should be conducted to determine the presence of toxic chemicals. This information would then be used to determine the need for issuance of waste discharge requirements by the Central Valley Regional Water Quality Control Board for dewatering activities.

2. Flooding

a. Environmental Setting

The project site is located less than one mile east of the San Joaquin River. Ground elevations vary from 10 to 15 feet NGVD (National Geodetic Vertical Datum). The mean annual precipitation is about 12 inches. The site drains to the south with relatively mild slopes. The southeast corner of the site is somewhat depressed and is unable to drain by gravity. Embankments for both Interstate 5 and the Southern Pacific Railroad form additional barriers to the southerly movement of surface runoff.

The project site, like much of the surrounding area, is protected from the San Joaquin River by levees. Flooding at the project site has resulted from a combination of overflows from the San Joaquin River and on-site ponding of runoff during moderately intense prolonged rainstorms.

San Joaquin River Overflows and Seepage

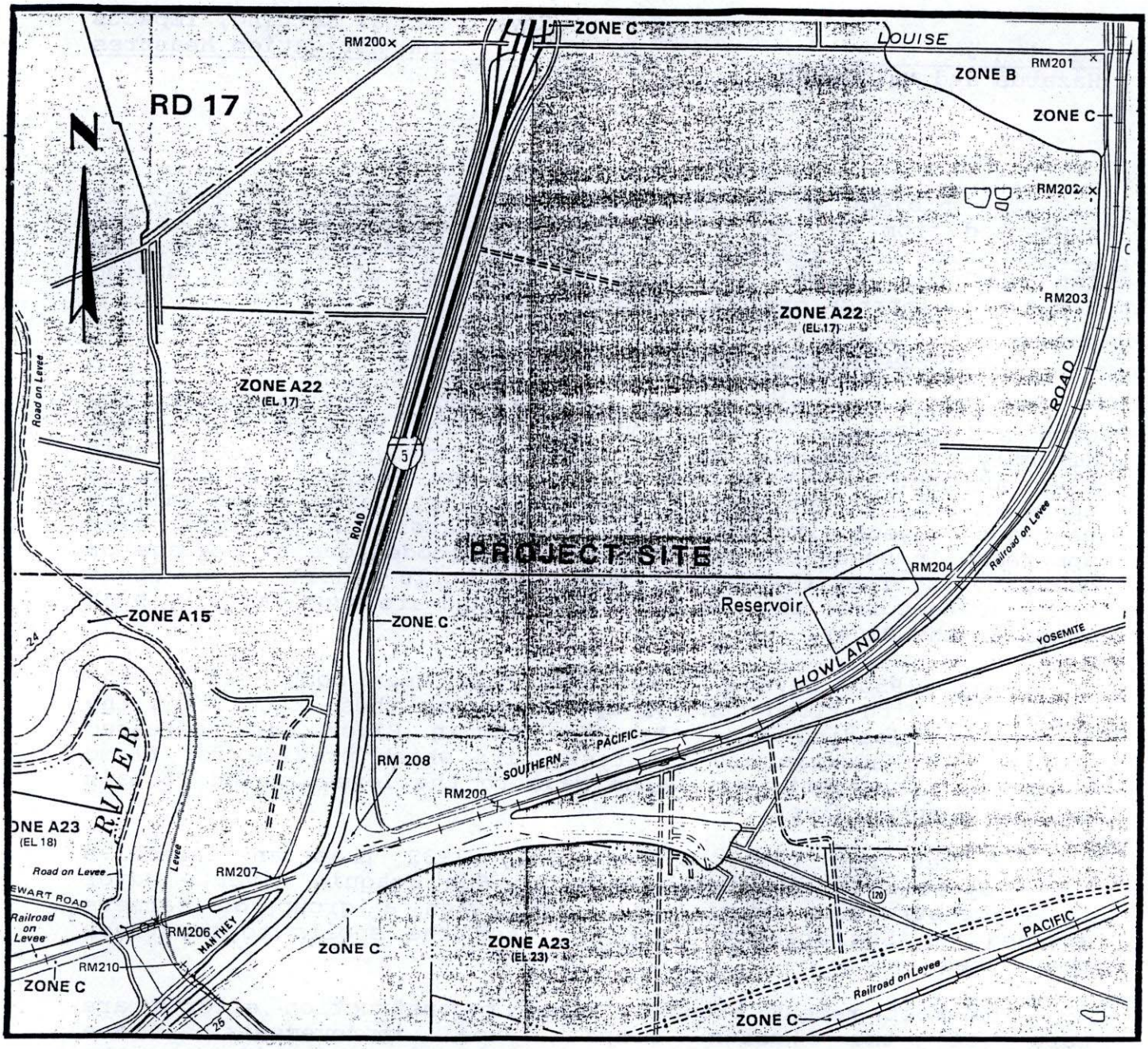
The San Joaquin River is the major drainage facility within San Joaquin County and all flowing streams are either directly or indirectly tributary to the river. At Mossdale, near the southwest corner of the site, the San Joaquin River Drains approximately 14,200 square miles. The last major levee failure near the project site was in 1950 approximately two to three miles upstream. In December 1955 the site was flooded due to seepage or "sand boils" from the river.[6] Such sand boils usually occur about 20 to 30 feet from the toe of the levee and are aggravated by high water in the River.

Since 1950, several reservoirs have been completed in the watershed. With flood control operations at these facilities the threat of flooding from the San Joaquin River has decreased somewhat. In addition to the reservoirs which provide for flood control, improvements have been made to the levees which contain the San Joaquin River.

It was not until approximately 1932 that an effective levee system was in place along the San Joaquin River.[7] Major levee construction began about 1911 when a group of farmers dredged the San Joaquin River and used the spoils to construct the levees.

The most recent proposed levee reconstruction efforts are part of the Weston Ranch levee improvements. These improvements generally consist of raising and widening the levee or adding a berm along the east bank of the San Joaquin River in Reclamation District Number 17. Additional rip-rap will be placed on the river bank of the levee at selected locations to increase protection from erosion.

The current Flood Insurance Study (FIS) prepared by the Federal Emergency Management Agency (FEMA) predicts overtopping of portions of the San Joaquin River levees in Reclamation District Number 17. The FIS estimates a discharge of 44,500 cubic feet per second (cfs) for the 100-year storm event at Mossdale. The delineated 100-year flood boundary is shown on the Flood Insurance Rate Maps (FIRM) revised July 4, 1988. (See Figure 24.) This mapping shows the project site as having a 100-year base flood elevation of 17 feet NGVD. The



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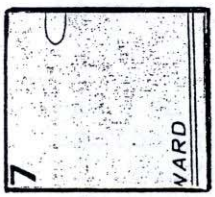
SCALE IN FEET



SHADED AREA IS CURRENT FEMA 100 YEAR FLOODPLAIN

FIGURE 24 100 YEAR FLOODPLAIN

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resulting depths of flooding would range from two to seven feet. Overflow flooding from the San Joaquin River reaches the project site through the Louise Avenue underpass at Interstate 5.

The proposed Weston Ranch levee improvements are intended to entirely contain the San Joaquin River within its leveed banks for the 100-year event. If accepted by FEMA, these improvements would remove the project site from the 100-year flood zone.

On-Site Flooding

During storm events the on-site ponding of local runoff contributes greatly to the flooding of the project site. During February and March 1983, approximately 200 acres of the project site were flooded to various depths.[8] Most of this water could be attributed to increased runoff from the project site due to the saturated soils conditions resulting from prolonged rainfall.

At the southwest corner of the site, there is a 30- to 36-inch diameter culvert located under Interstate 5 near Manthey Road. This pipe was apparently intended to drain runoff from the project site towards the west where it could be pumped over the levee and into the San Joaquin River. Under present conditions however, the pipe actually drains toward the site and contributes to the ponding of runoff.[9] Consequently, unless ponded water is pumped from the site, percolation into the soil and evaporation is the only available means for disposal of water.

Further compounding the lack of adequate drainage at the project site is the occurrence of generally shallow groundwater. Groundwater levels at the site vary from five to 15 feet below the surface.[10] During a prolonged storm or series of events, percolation rates decrease rapidly as the ground becomes saturated. The shallow groundwater levels may also rise slightly. These conditions contribute to the ponding of stormwater runoff.

b. Environmental Impacts

Development of the project site as proposed would create a substantial amount of relatively impervious areas. Consequently, flooding problems at the site will be worse unless appropriate measures are taken to control and dispose of stormwater runoff.

The conveyance capacity of the San Joaquin River is not known in the reach where the project would discharge. It is known, however, that the San Joaquin River generally has insufficient capacity to contain the 100-year discharge. Consequently,

introducing any additional runoff from the project site into the San Joaquin River before improvements are carried out would constitute a significant impact.

Flood overflows from the San Joaquin River will result in more severe damage to the developed project site as compared to the existing land use.

c. Suggested Mitigation Measures

Increased flood protection for the project will require the implementation of various flood control and drainage measures. Attention should be given to flood overflows from the San Joaquin River as well as on-site flooding. To address these issues the following mitigation measures are suggested.

The applicant should contribute funds toward the reconstruction of levees along the San Joaquin River. Such improvements are currently being proposed by Reclamation District Number 17.

The sizing of the project's stormwater detention ponds to be used in conjunction with the terminal drainage system and the capacity of the pumps should be designed without any allowance for percolation and using a minimum design storm equal to a 10-year, 24-hour event.

Any on-site storm water detention ponds should maintain a minimum separation of five feet between the bottom of the pond and the groundwater or seasonally high groundwater.

The on-site pumping stations, in conjunction with any storage volume, should protect the site from flooding as a result of the design storm. In addition, the pumps should be capable of emptying the detention ponds within 48 hours.

3. Noise

a. Environmental Setting

The most significant source of noise affecting the project site is from vehicles traveling along Interstate 5, Louise Avenue and SR 120. The Southern Pacific Railroad (S.P.R.R.) also contributes to the ambient noise conditions. In a noise study prepared for the County, it showed that five trains/day, each containing 65 cars, travel through the project area. The areas of the site most affected by traffic noise are the western and northern edges bordering I-5 and Louise Avenue.

Existing noise levels in the vicinity of the project site were recorded by BBN Laboratories, Inc., in 1985 as part of a County-wide noise study.[11] The BBN study projected future noise levels based on existing land use designations. Table 26 shows the current, as well as future (2005), noise levels along these roadways.

TABLE 26

EXISTING (1985) AND FUTURE (2005) NOISE LEVELS IN PROJECT VICINITY*

	Existing		Future	
	70dBA	60dBA	70dBA	60dBA
I-5	235	1311	434	2240
Louise Ave.	66	366	123	631
SR 120	99	557	180	937
S.P.R.R.	69	323	138	641

* Distance in feet measured from edge of roadway.

b. Environmental Impacts

Potential noise impact concerns associated with the proposed project include:

- The compatibility of the proposed Highway Service uses on the site with the anticipated onsite noise environment.

- The potential for project-generated traffic noise impacts on existing residential uses along Louis Avenue.

1) Compatibility of the Proposed Highway Service Use with the Noise Environment

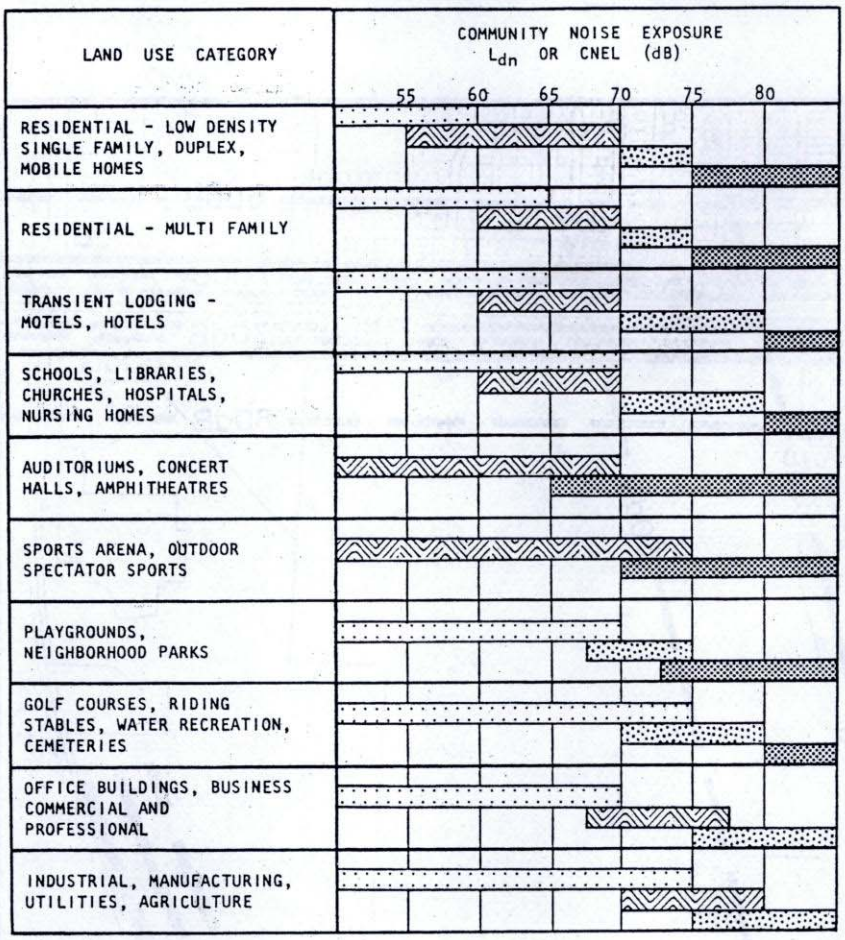
Numerous criteria have been developed over the years for assessing the acceptability of community noise levels, including many more or less complicated procedures for assessing annoyance. The appropriate criteria here have been established by the California Office of Noise Control and adopted by San Joaquin County in its Noise Element of the San Joaquin County General Plan. (See Figure 25.) These criteria list as clearly acceptable a maximum outdoor noise level for new and existing development as 60 dBA (CNEL) and 60 to 69 as conditionally acceptable. Normally unacceptable levels are 70-74 dBA, and 80 or greater is clearly unacceptable.

As shown on Figure 26, the future noise levels along the western and northern side of the site range from 60 to 70 dB as a result of the vehicle traffic along I-5 and Louise Avenue. The proposed project includes the development of various Highway Service uses at the northwestern corner of the project site. Noise levels in the outdoor areas associated with a hotel or motel located here would exceed the County's recommended standards for transient occupancy residential uses such as hotels and motels. Furthermore, the State of California, through Title 24, Part 2 of the Administrative Code, requires that any multi-family housing project, including new motels and hotels located where the noise levels exceeds 60 dB, must be designed so that the indoor noise level does not exceed 45 dB in any habitable room.

Noise levels resulting from traffic on SR 120 and the railroad are not anticipated to have an impact on the project. As shown in Figure 25, the normally acceptable noise levels for industrial land uses can range from 50-75 decibels. Future noise levels in the industrial portion of the site will not exceed these standards. (Refer to Figure 26.)

2) Project-Generated Traffic Noise

The main access to and from the proposed project site would be along Harlan Road. As determined by the traffic distribution analysis for this project, only five percent of the project-generated traffic would travel to and from the site on Louise Avenue. A majority of project-generated traffic would travel to and from the site along Harlan Road.



INTERPRETATION

NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exist, evaluate land use with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants described in the text to the measured or calculated value of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic, but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL of L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

SOURCE: CALIFORNIA ONC/OPR, p.26

FIGURE 25 STATE LAND USE COMPATIBILITY STANDARDS FOR COMMUNITY NOISE ENVIRONMENTS

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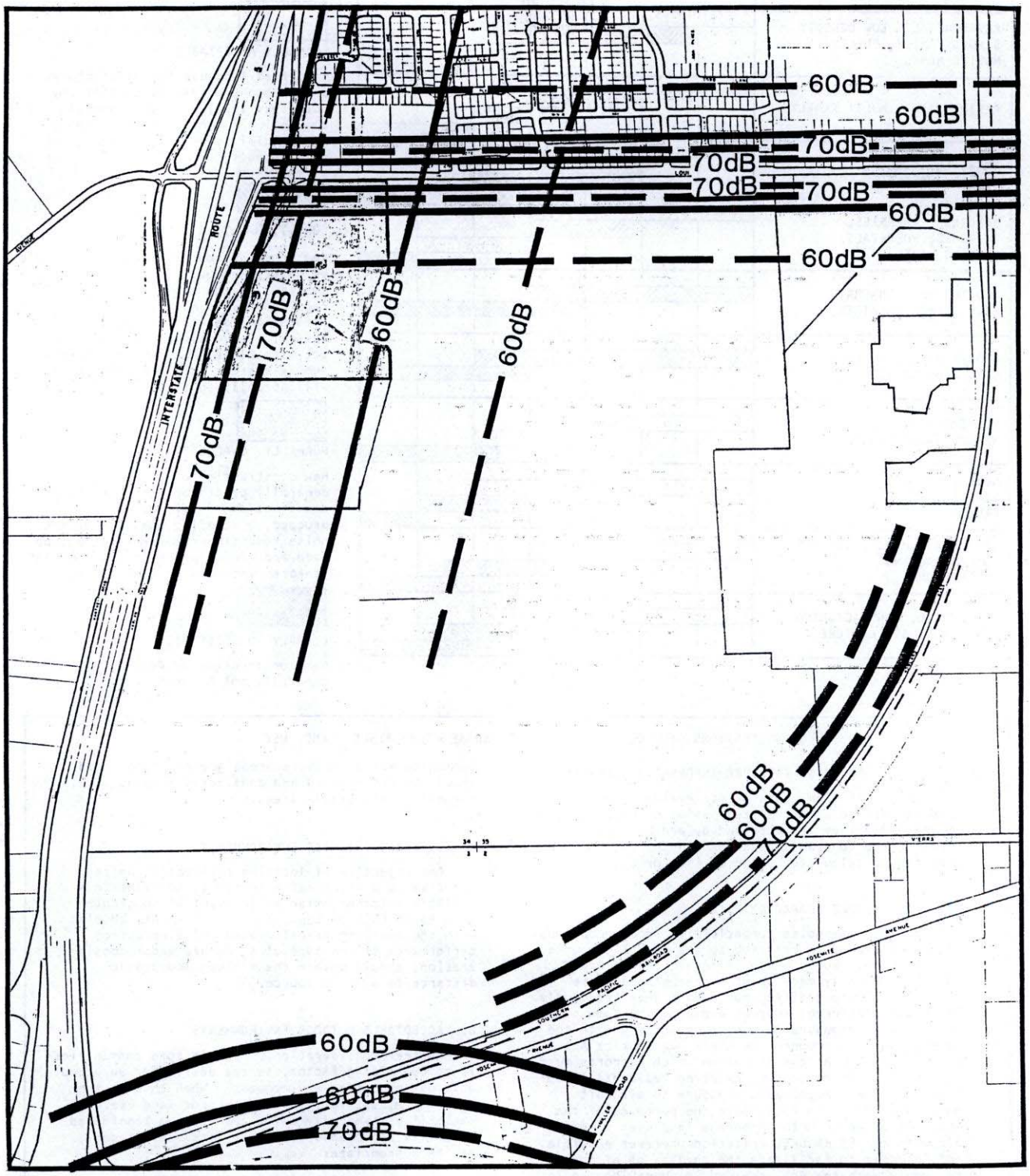

SCALE: 1" =1/4 MILE or 1,320 FEET

EXISTING (1985) CNEL

FUTURE (2005) CNEL

FIGURE 26 NOISE CONTOURS

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As shown on Figure 26, existing noise levels in the outdoor areas associated with the residences on the north side of Louise Avenue are already exceeding the County's recommended noise standard of 60 dB. Based on the BBN projections, the 60 dB CNEL on the north side of Louise Avenue is 631 feet from the edge of the roadway, well within the area of residential development.

Through extensive study, it has been determined that: (a) except in carefully controlled laboratory experiments, an increase of only one dB in A level is considered a just-noticeable difference; (b) outside of the laboratory, a three dB increase in A level is considered a just-noticeable difference; (c) a change in A level of at least five dB is required before any noticeable change in community response would be expected; and (d) a 10 dB increase in A level is subjectively heard as a doubling in loudness and is almost certain to cause an adverse change in community response. Previous studies indicate that a 50 percent increase in roadway traffic is required to raise noise levels substantially. The added project-generated traffic on Louise Avenue, coupled with cumulative development, is not expected to significantly increase traffic noise levels along Louise Avenue beyond those projected by BBN to the year 2005.

c. Suggested Mitigation Measures

Because the motel and hotel units would be constructed where the CNEL exceeds 60 dB, a Title 24, Part II, acoustical report will be required of a developer prior to issuance of the building permit for this project. The purpose of the report will be to show how interior noise levels will be controlled to meet State standards. The measures imposed as a result of this report will mitigate the noise exposure of the hotel development.

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1 SRM Applied Environmental, Environment From Libby-Owens-Ford Company, 1988.
2 Woodward-Clyde, Environmental Assessment Libby-Owens-Ford Lathrop Facility, 1987.
3 Ibid., SRM Applied Environmental.
4 Annual Report 1987, Groundwater Remediation Program, Lathrop, California, Weston, 1987.
5 Kleinfelder Engineers, Reconnaissance Environmental Assessment, Libby-Owen-Ford, September 1987.
6 John Mendes, farmer, personal communication, February 1989.
7 Tom Owens, Thompson-Hysell Engineers, personal communication, February 1989.

8 Ibid., Mendes.
9 Ibid., Mendes.
10 Ibid., Kleinfelder Engineers.
11 BBN Laboratories, Inc., Preparation of Current and Projected Noise Contours for Specific Roads, Railroads, and Airports in San Joaquin County, February 1986.

E. GROWTH INDUCEMENT

1. Introduction

The proposed project is planned for an area located within the Lathrop Community boundary and designated for urban development. The underlying development proposal would create growth-inducing impacts in terms of the induced demand for housing and the availability of water and sewer service to parcels not presently serviced by either the LCWD or the City of Manteca. The increased demand for housing would create secondary impacts resulting in increased traffic and greater demands placed on public services, such as sewer, water, police, fire and public schools.

2. Housing

a. Housing Need

The housing need is an estimate of the number of households likely to be formed by the employees at the project site. The local housing impact is an estimate of the number of new households likely to settle in the Lathrop community. This induced demand for housing from new employees must consider a variety of factors such as the number and type of jobs being created at the project, the degree to which the existing labor force will fill the jobs and housing patterns of the new employees moving to the area.

Table 27 outlines the estimated building space and employees under the proposed General Plan Amendment (GPA) and an all-industrial land use plan. At buildout, the GPA plan is estimated to have 3.2 million square feet of building space and 4,400 employees. The all-industrial plan is estimated to have 2.9 million square feet of space and 3,700 employees.

The estimated housing need of the project area employees is based on the existing number of employable residents per household in San Joaquin County. According to the Employment Development Department (EDD),[1] in 1987 there were 189,300 residents in the civilian labor force (includes employed and unemployed) and the California Department of Finance (DOF) estimates that there were 148,354 occupied housing units in San Joaquin County. This translates to 1.28 employable residents per household in the County. Assuming this relationship holds true for the project site, the estimated housing need of the project employees is 3,450 units for the GPA land use and 2,900 for the all-industrial alternative.

TABLE 27

THE CROSSROADS INDUSTRIAL PARK
ESTIMATED BUILDING SPACE AND EMPLOYEES
GIVEN THE PROPOSED GPA AND ALL INDUSTRIAL LAND USE PLANS

Land Use Plans	Area	Efficiency Factor	Floor Area Ratio	Building Sq. Ft.	Sq.Ft. Per Employee	Estimated Employees
Proposed GPA:						
Highway Service	44	85%	25%	407,300	500	800
Limited Industrial	34	85%	25%	314,700	600	500
General Industrial	450	85%	15%	2,499,300	800	3,100
Total	528			3,221,300		4,400
All Industrial:						
General Industrial	528	85%	15%	2,932,500	800	3,700

Source: Economic and Planning Systems, Inc.

b. Housing Impact

As of 1987, the EDD estimated that 18,700 or 9.9 percent of the San Joaquin County civilian labor force was unemployed. This unemployment rate is four percent higher than the state-wide average. It indicates that there is a significant labor force available to fill the new jobs as they come on line. For this to occur it is critical that the new jobs match the skills of the unemployed. Since many of the jobs likely to be created at the project site will be entry-level retail and warehousing jobs, it is reasonable to assume that some of the new jobs will be filled by unemployed persons currently living in the County. Based on a conversation with the Job Service Coordinator for the EDD in Stockton,[2] it was determined that between 40 and 50 percent of the entry level jobs could be filled by the ranks of the unemployed. For the purpose of this analysis it is assumed that 35 percent of the jobs at the project site will be filled by the ranks of the unemployed.

In recent years many new San Joaquin County residents are employed in the Bay Area. These households have traded the longer commute (to a higher paying job) for a larger more affordable home. As employment opportunities are created closer to their home, it is reasonable to assume that some of these commuters will switch to local jobs. In addition, the creation of employment opportunities in centrally located Lathrop will induce the residents in communities such as Tracy and Manteca who commute to jobs in Stockton and other areas of the County to switch to the more conveniently located, comparable Lathrop jobs. According to the Job Service Coordinator, it is reasonable to assume that around 15 percent of the new jobs will be filled by these two classes of switchers.

Another factor that will play a role in the housing impact of the proposed project is the number of new employees who will commute to the project from outside the County. For the purpose of this analysis, it is assumed that this will be insignificant.

County-wide Housing Impact

The Crossroads Industrial Park jobs filled by the currently unemployed and the job switchers do not generate a housing impact, since these employees currently reside in the County. Applying the two labor force factors and the employed resident-per-household factor highlighted above to the estimated number of employees at the project generates an estimate of the County-wide housing impact induced by the proposed project. Under the proposed land use plan, it is estimated that the County-wide demand for new housing will be on the magnitude of 1,700 units.

In terms of housing affordability, the housing demand would be stratified by the household income levels of the new employees. While the scope of this analysis does not call for an estimate of demand by affordability level, the demand will include a diverse mix of unit types (single and multi-family), sizes (number of bedrooms) and prices. The relationship between the housing affordability of the employee-households and the supply of housing by price level in the area will affect the housing location decisions of the new employees. In short, the degree to which the diverse mix of housing opportunities are supplied in the County will dictate the ability of the new employee-households to locate affordable housing in the County.

Lathrop Housing Impact

Without a field survey, it is extremely difficult to estimate the percentage of new households that will locate in the Lathrop area. Factors such as the supply and price of local housing will have a significant impact on the housing patterns of the new employees. However, as an indicator of the percentage of new employees likely to locate in Lathrop, information on the city residence of the Tracy Defense Depot employees has been utilizied. The Defense Depot employs semi-skilled warehouse workers, comparable to the employees of the industrial development likely to locate at this site.

As of 1987, 22 percent of the Defense Depot employees resided in the City of Tracy. Assuming Lathrop experiences a similar capture rate at the project site and local housing opportunities are developed, the proposed land use is estimated to induce a local housing impact of 375 units.

3. Water and Sewer

The extension of sewer and water mains may hasten development along the proposed alignments. In particular lands along McKinley Avenue and Vierra Road would be subject to development pressure once the water and sewer lines have been installed. This would apply whether the applicant is served by LCWD or the City of Manteca. If the project site is annexed to the City of Manteca, all lands located between the project site and the City boundary would be included in the annexation. This has growth-inducing implications. However, growth-inducing effects as a result of the annnexation must be addressed in an EIR prepared by the City of Manteca.

4. Secondary Impacts

The demand for housing as a result of new employment centers would create an additional demand on police and fire services. As more homes are developed in the Lathrop area, the level of service

decreases because the fire district and sheriff's department do not have adequate manpower to meet the increased demand for service, thus resulting in slower response times. (Refer to Services Section)

The increased demand for housing also creates a demand for schools. Currently, the Manteca Unified School District is at capacity and is projecting to construct 16 new schools to meet future demand. The District is planning to fund its planned capital expansion through the establishment of Mello-Roos Districts.[3]

Traffic impacts would occur as a result of the increased demand for housing. However, the increased traffic levels have been incorporated into the cumulative analysis for this project. (Refer to Section V.A. Traffic.)

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1 Charles Daniel, San Joaquin County analyst, Employment Development Department, personal communication, February 1989.

2 Bill McDaniel, job service coordinator, Employment Development Department, personal communication, February 1989.

3 Jim Thomas, Jr., assistant superintendent, Manteca Unified School District.

SECTION VI

IMPACT OVERVIEW

A. SIGNIFICANT UNAVOIDABLE IMPACTS WHICH CANNOT BE MITIGATED TO ACCEPTABLE LEVELS

The proposed project would result in the loss of 528 acres of agricultural land, 130 of which are considered to be prime soil.

The LCWD does not have sewage treatment capacity to serve the site.

B. BENEFICIAL IMPACTS

The proposed project would be employment generating. The type of uses that could be developed would attract a local labor force.

In addition to roadway improvements required for the proposed project, the developer would be required to pay Lathrop Traffic Impact Mitigation Fees which would benefit the Lathrop community.

C. IRREVERSIBLE ENVIRONMENTAL CHANGES

Used in this context, the term "irreversible" means that the site could not be restored to its pre-development condition after completion of the proposed project. The grading, filling, paving and building on the site would be considered an irreversible change. If, at some time in the future, the buildings were razed and the pavement were removed from the site, the effects of grading and construction would remain. Also associated with the development of the project site is the increased use of resources such as water and gasoline which are non-returnable. Wood, concrete and asphalt that would be used to construct the project may be considered to have an almost negligible drain on the total regional resources reserve.

D. SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

CEQA requires that an EIR describe the cumulative and long-term effects of the proposed project which adversely affect the state of the environment. The proposed project would permanently remove 528 acres of Class II and Class III land from agricultural use since it is not likely that the site would be returned to this use in the foreseeable future. The site has been used for cultivation of row crops for many years and it is reasonable to assume that it would be capable of continuing in this or a related agricultural use in the foreseeable future.

In a short-term context, the project would provide a variety of employment-generating uses as well as additional goods and services for the Manteca-Lathrop area. There are no known long-term risks to public health and safety associated with these uses. The project sponsor believes that the proposed project is justified now due to the existing demand for job-generating uses in this area of the County.

In a long-term context, development of the project site with urban uses would eliminate the options for future use of the site for other types of uses considered beneficial such as other types of agriculture or a park. The site, however, has been committed to industrial uses in the County General Plan. Its development with industrial uses can be perceived as fulfilling the long-range planning goals of the County.

E. CUMULATIVE DEVELOPMENT

CEQA requires that an EIR include a discussion of cumulative impacts when they are significant. As stated in Section 15130 of the State CEQA Guidelines, "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 detail as is provided of the effects attributable to the project alone. The discussion shall be guided by the standards of practicality and reasonableness."

The projects included in this analysis are at varying stages of the development review process, including those for which applications have been received, those with final approvals, and those under construction.

The primary issues with respect to cumulative effects of this development are land use, traffic, public services, including sewer, water, police, fire, schools and parks, air quality and hazards. The detailed cumulative analyses of traffic, sewer, water and air quality are provided in Section V.A. Traffic, Section V.B. Air Quality, Section V.C.1. Water Supply, and Section V.C.2. Sewage Disposal. The other issues are discussed below.

1. Environmental Setting

The primary study area includes the project site and the unincorporated area of Lathrop. One additional annexation project located in Manteca has also been considered in this analysis due to its proximity to the project site. County staff has identified a total of 14 projects which are considered to contribute to the cumulative impacts of the project.[1] Table 28 provides a list of these projects and Figure 27 shows their location in the study area. While a majority of these projects are in-fill residential projects in the Lathrop area, several include development of commercial uses. As shown on Table 28, cumulative development would add a total of 3,186 single-family units, 136 multi-family units and 647 acres for commercial use. Using a multiplier of 3.5 persons per unit, the added population from cumulative residential development would be 11,627 persons.

TABLE 28

CUMULATIVE DEVELOPMENT IN PROJECT AREA
(as of March 17, 1989)

Fig. * Map #	Location	Project Name	Residential Single Units	Residential Multi-Family Units	Commercial Acres	Other	Status as of March 17, 1989
1	County	S.P.R.R. Property	949	--	16.5 (C-M) 6.9 (C-2)	16.4 acres (school/ park)	Draft EIR in preparation
2	County	Valley Haven	388	136	6.2		Tentative map approved
3	County	Sunrise Place	10	--	--	--	All building permits issued
4	County	Sunset Manor	41	--	--	--	All building permits issued
5	County	Eagle Park #5	37	--	--	--	Final map submitted
6	County	Future C-2[1] development	--	--	50.0	--	No application submitted to date
7	County	Rosegate Terrace	155	--	--	--	Constructed
8	County	Wildflower Estates	81	--	--	--	All building permits issued
9	County	Brumley Place	18	--	--	--	Application made on all building permits[2]

Fig. * Map #	Location	Project Name	Residential Single Units	Residential Multi-Family Units	Commercial Acres	Other	Status as of February 1989
10	County	Franco Construction	155	--	--	--	Under review - Tentative map approval pending
11	County	Lathrop Village No. 14	29	--	--	--	Final map approved
12	County	Diablo Vista	86	--	--	--	Partially constructed
13	City	Rossi Annexation[3]	1237	--	10 (Neighborhood Commercial) 29.6 (Light industrial-Warehousing)	20 acres (school) 13 acres (Park site/ drainage basin)	DEIR under review.
14	County	Louise Industrial Park	--	--	528+		Draft Environmental Impact Report
		TOTALS	3186	136	647.2	49.4 acres	

Source: San Joaquin County Planning Department

1 Although no application has been submitted, this area is expected to be developed with C-2 uses.

2 Expected permit issuance 3/31/89.

3 Land use figures derived from the DEIR for Rossi Annexation prepared by WPM consultants, December 1988.

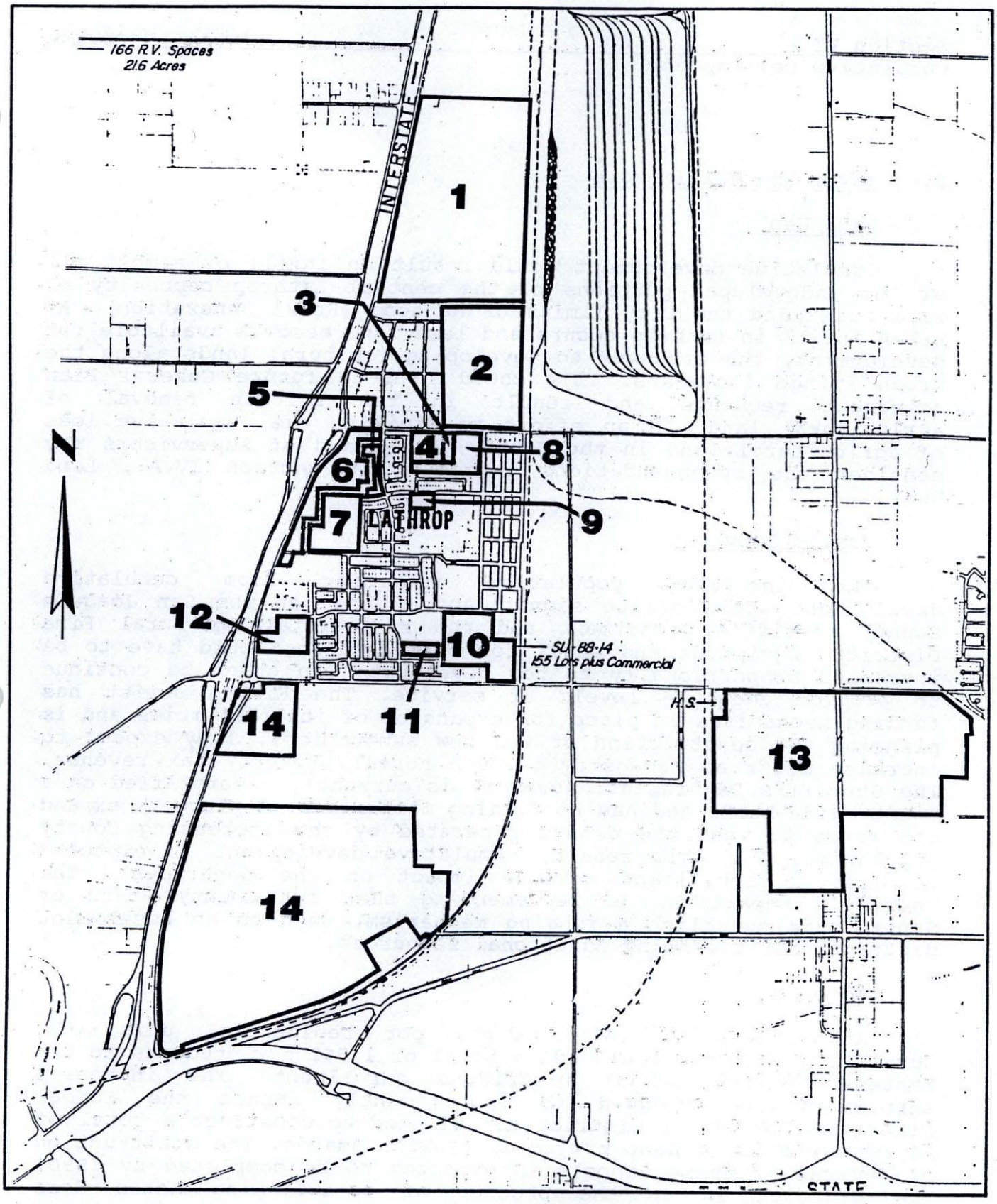

FIGURE 27 CUMULATIVE DEVELOPMENT

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2. Environmental Impacts

Land Use

Cumulative development would result in infill of almost all of the undeveloped portions of the central Lathrop community as well as expand the City limits of Manteca (Rossi Annexation). As urban infill in Lathrop occurs and less land becomes available for development, the pressure to develop agricultural lands along the urban fringe increases. This could lead to future General Plan amendment requests and result in the further removal of agricultural land. In an effort to minimize the cumulative loss of agricultural land in the County, the Board of Supervisors may consider the recommendations suggested in Section IV.A., Land Use.

Public Services

The increased population resulting from cumulative development would create significant demands on the San Joaquin County Sheriff's Department and the Manteca-Lathrop Rural Fire District. Equipment and staff for both agencies would have to be increased proportionally to new development in order to continue to provide adequate levels of service. The Fire District has funding mechanisms in place for expansion of its facilities and is planning the construction of two new substations. They expect to increase staff as necessary through normal property tax revenue. The Sheriff's Department, however, is currently understaffed on a County-wide basis and has no funding mechanisms in place to expand its force to meet the demand generated by the increasing County population. For this reason, cumulative development is expected to have a significant adverse impact on the department. The Sheriff's Department is recommending that the County Board of Supervisors establish a funding mechanism, such as an assessment district, for financing additional resources.

Schools

At a rate of .47 students per residential unit, the cumulative projects would add a total of 1,561 new students to the Manteca Unified School District's enrollment. The increased enrollment is expected to significantly impact the School District. The School District has planned to construct a total of 16 new schools to meet projected growth demands. The construction of several of these schools is expected to be completed by 1990. The District is in the process of establishing Mello Roos Districts as a means of securing neceesary funding for its planned future capital expansion. Enrollment impacts resulting from new growth should also be addressed during the development review process. Mitigation measures should be applied on a project-by-project basis for impacts generated by each project.

Parks

The Lathrop area is located within County Service Area Four which provides recreational services for the community of Lathrop. Lathrop has one nine-acre community park which is County-owned and operated. A variety of facilities are located at this park, including two softball diamonds, outdoor basketball and volleyball courts, a tot lot, a picnic shelter and a community center building which contains a gymnasium, multipurpose room and an office area.

The population generated by cumulative development in the project area is expected to significantly increase the demand for the existing park and recreational facilities in the Lathrop area. The County Subdivision Ordinance requires developers to dedicate land for a park or pay in-lieu fees, or a combination of both, as condition of subdivision map approval. The fees are assessed on the number of residents generated by a project and the park standard ratio of number of persons per acre. The fees or dedicated park land from cumulative development in the project area would be contributed towards the construction of County park and recreation facilities and would mitigate future impacts on CSA 4. The park and recreation needs of new residents should be addressed during the development review process. Mitigation measures should be applied on an individual project basis for impacts generated by each project.

Hazards

Several sources of groundwater contamination have been identified in the Lathrop area although according to LCWD, the domestic water supply has not been contaminated. The three primary sources of potential groundwater contamination as a result of hazardous materials include the Sharpe Army Depot, the Occidental Chemical Company and Lague Sales Company sites.[2] Remediation efforts at the Occidental Chemical Company are discussed in Section V.D.1. of this EIR. Remediation programs are also in effect at the other two sites. The increased draw of groundwater in the Lathrop area resulting from future development would affect current remediation efforts of hazardous wastes if adequate precautions are not taken. The possibility exists for contamination of the area's potable water supply due to continued drawdown of groundwater.

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1 Kitty Walker, Senior Planner, San Joaquin County Planning Department, personal communication, January 1989.

2 Engineering-Science, FEIR Christiansen and Bach, General Plan Amendment and Williamson Act Contract Cancellation, January 1987.

SECTION VII

ALTERNATIVES TO THE PROPOSED PROJECT

This section discusses four alternatives to the proposed project. They are: 1) No Development, 2) Project in Conformance with the General Plan - All General Industrial; 3) Modified Project - Limited Industrial Uses; and, 4) Alternative Site. Each of the alternatives are evaluated in conceptual terms only without regard to the specifics of site planning aspects. The following discussion focuses on the topic areas in which the alternatives would either reduce or increase the degree of environmental impacts as compared with the proposed project.

A. NO DEVELOPMENT

As stated above, the No Development alternative assumes that the project site would remain in its present agricultural use, with no future development activity occurring. With the exception of agricultural-related changes which could occur in the future, such as a change in the type of crops grown, on-site conditions are expected to remain the same. These conditions are described in the preceding sections of this EIR.

The constraints and advantages to implementing this alternative are discussed below.

Land Use

Under this alternative, the site could continue to be used for agricultural purposes, thereby contributing to the agricultural economy of San Joaquin County. The site, however, is designated for urban development in the General Plan, thus its retention in agricultural uses would not be consistent with the County's long-range planning goals for the site.

Traffic

In comparison to the proposed project, this alternative would not generate any additional traffic and therefore would eliminate traffic impacts resulting from development of the site.

Air Quality

Predicted ambient air quality levels would be essentially the same as present levels, or would be improved due to improved vehicle emission controls and local steps toward improving County-wide air quality through implementation of the Air Quality Maintenance Plan.

Public Services and Utilities

Maintaining the existing land uses at the site would eliminate any future demands on the water supply systems at Lathrop or Manteca. Water would continue to be pumped from the existing on-site wells for agricultural purposes. The approximate annual demand of 461 million gallons per year associated with the continued agricultural use of the site would continue to draw upon the region's aquifer. This alternative would not generate additional sewage at the site.

The San Joaquin County Sheriff's Department and the Manteca-Lathrop Fire District would not experience an increase in demand for law enforcement and fire protection services.

Hazards

In leaving the site undeveloped, ponding of stormwater runoff would continue to affect the project site. Additionally, relatively infrequent but more severe flood overflows of the San Joaquin River would continue unless levee rehabilitation proposed by Reclamation District Number 17 is carried out.

This alternative would not affect the on-going remediation efforts at the project site.

B. PROJECT IN CONFORMANCE WITH GENERAL PLAN - ALL GENERAL INDUSTRIAL USES

Alternative B assumes that development of the project site would proceed according to the existing General Plan designation of General Industrial and a Zoning designation of General Manufacturing. A list of various uses permitted under M-2 zone is provided in Appendix D. At a 60 percent land coverage rate, this alternative would include 13,806,144 square feet of General Industrial development. No highway service or commercial manufacturing uses would be developed under this alternative. The various constraints and advantages to this development scenario as compared to the proposed project are discussed below.

Land Use and Planning Policy

Alternative B would result in the removal of 528 acres of agricultural land, 130 of which is considered prime. Although this impact is considered significant and unmitigable, the site has been committed to industrial uses in the County General Plan. This alternative would be consistent with the present land use designation.

Traffic

This alternative would generate a total of 22,060 daily trips, with 2,600 (2,130 in, 470 out) AM peak hour trips and 2,600 (550 in, 2,050 out) PM peak hour trips. The added project traffic and resulting impacts would be very similar to those identified for the proposed project. (Refer to Section V.A., Traffic and Circulation.) The mitigation measures suggested for the proposed project would apply to this alternative as well.

Air Quality

Under the current General Plan designations vehicle trip generation and intensity of land uses would be very similar to the proposed project scenario. The elimination of highway serving commercial activities would lessen local CO emissions by reducing total idling time and slower vehicle speeds in the project vicinity.

Public Services and Utilities

Projected water use, while varying greatly with the type of industry located at the site, would likely be similar to that projected for the proposed project. The site would still have to be served by either the Lathrop County Water District or the City of Manteca as discussed in Section V.C. of the EIR.

The generation of wastewater at the site for this alternative would closely parallel the consumption of water. Sewage flows would vary with the type of future industrial uses located at the site, but are expected to be similar to those projected for the proposed project. Sewer services would have to be provided by either the LCWD or the City of Manteca. The mitigations identified for the proposed project would be applicable to this alternative as well.

Since this alternative would not include highway serving commercial uses, the projected increased demand for fire protection services would be reduced by 10 percent when compared with the proposed project.

The elimination of the highway serving commercial uses would also reduce the demand for law enforcement services. According to the Sheriff's Department, it would still be necessary to upgrade existing beat coverage to serve the proposed project. The mitigations identified for law enforcement and fire protection impacts would still be required for this alternative.

Hazards

Drainage and flooding requirements for this project would be identical under this alternative as those discussed for the proposed project in Section V.C.

Under this alternative, remediation efforts at the project site would continue exactly as described for the proposed project. Urban development could conflict with these efforts to the same extent as the proposed project. The risk to public health from exposure to hazardous materials would also exist with this alternative.

Noise attenuation measures would not be necessary with this alternative because state standards allow for higher noise levels for an industrial land use.

Growth Inducement

The growth inducing effects would be similar to the proposed project in that the project could stimulate the need for housing by employees of the various industries and accelerate development along the sewer and water line alignments. It is estimated that in Lathrop an all-industrial alternative could induce a local impact of 320 units. On a County-wide basis the demand is estimated to be 1,450 units. As with the proposed project, the supply conditions will meet the demand providing the mix of housing constructed is consistent with the mix of incomes of new employee households.

C. MODIFIED PROJECT (ALL LIMITED INDUSTRIAL USES)

This alternative assumes development of the site according to the Limited Industrial land use designation and Restricted-Manufacturing (R-M) zoning designation. The purpose of this alternative would be to provide a project similar to that proposed, but to limit the range and intensity of allowable industrial uses to reduce the potential environmental impacts identified for the proposed project.

The intent of the restricted manufacturing zone is: "to provide for the establishment of industrial districts which, by the nature of the development and activity permitted within them, can be located near planned or existing residential districts with a minimum of environmental conflict. Toward this end, the requirements of the zone include development plan approval as well as performance standards, and land use in the zone is limited to light manufacturing, service, related industries, the external effects of which can be controlled."[1]

A list of the permitted uses in the R-M zone is provided in Appendix E. This alternative would not include development of Highway Service and Commercial-Manufacturing uses as would the proposed project.

The various advantages and constraints associated with Alternative C are discussed below.

Land Use and Planning Policy

This alternative would require a General Plan Amendment for the entire site to change the current General Industrial designation to Limited Industrial and a Zone Reclassification to change the current zoning from General Manufacturing to Restricted Manufacturing. This alternative would result in the loss of appoximately 528 acres of agricultural land. As stated earlier, this loss is considered a significant adverse impact which cannot be mitigated.

Traffic

Based on ITE research, trip ratios for R-M uses were established using the light industrial rates.[2] Such land uses would generate a total of 19,780 daily trips with 1,530 (1,270 in, 260 out) AM peak hour trips and 2,040 (450 in, 1,590 out) PM peak hour trips. Compared with the proposed project, this alternative would have 25 percent less traffic and hence would have proportionally less measurable impacts on roadways and street intersections. This reduction is primarily due to the elimination of the Highway Service and Commercial-Manufacturing uses. Mitigation measures would still be necessary for this alternative. Those measures suggested for the proposed project would be applicable to this alternative as well.

Air Quality

Since this alternative would generate 25 percent less traffic (see Traffic Section of this report) it would result in a proportional reduction in air pollutant emissions. In fact, as traffic flows from less intense development are improved, i.e., vehicle speeds increased, emission rates will decrease proportionally. There are no permitted uses under the restricted manufacturing use designation that would require special permits from the Air Pollution Control District.

Services and Utilities

Development of this alternative would require the extension of sewer and water services to the site by either the LCWD or the City of Manteca. The estimated water supply requirements for the site would be less than for the proposed project due to the

development of less intense industrial uses and the elimination of highway service uses. Sewage disposal requirements would be considerably less for this alternative. The reduced flows would utilize less capacity at the Manteca sewage treatment plant. The mitigations suggested for the proposed project to reduce sewer and water impacts would also be necessary for this alternative.

The overall increase for fire protection services would be reduced by 10 percent when compared to the proposed project due to the elimination of highway serving commercial uses. The elimination of the highway service uses would also reduce the demand for law enforcement services. However, additional staffing would still be required to serve the proposed project. The law enforcement and fire protection mitigations identified for the proposed project would apply to this alternative as well.

Hazards

Development of the site under this alternative could conflict with on-going remediation efforts at the site to the same extent as the proposed project. This alternative would also result in potential public risk from exposure to hazaradous materials transported from adjacent areas. The mitigations recommended for the proposed project would be necessary for this alternative as well.

Drainage and flooding requirements for the project site would be identical under Alternative C as those discussed for the proposed project in Section V.D. Under this alternative, remediation efforts at the project site would not be affected.

With the removal of highway serving commercial uses, there would be no noise impacts associated with this alternative.

Growth Inducement

Alternative C would have the same growth inducing features as the proposed project.

D. ALTERNATIVE SITE

This alternative considers the proposed project at an alternative location. In consultation with County planning staff,[3] an alternative site was selected for the proposed project based on its ability to accommodate a project of the size proposed. However, it was determined that development of the alternative site would be limited to the Highway-Service component of the project only because the proposed site is already designated for industrial development.

Alternative Site

Since the proposed project site has already been committed to industrial use with the appropriate General Plan designation and zoning, and the existing industrial uses in the area south of Louise Avenue are expected to be compatible with additional industrial development, County staff has determined that an alternative site is not necessary for the industrial portion of the proposed project. The parcel selected for this analysis is located approximately two miles south of the proposed project site, on Manthey Road immediately north of Interstate 5, 1,200 feet west of the San Joaquin River and northeast of Tracy and is identified as the Del'Osso site. (See Figure 28.) A General Plan Amendment for 50 acres of the 114-acre parcel was recently approved to allow highway serving commercial uses. The alternative site is larger than the 44-acre area of the project site allocated to H-S uses and could conceivably accommodate a larger project. For purposes of this analysis it is assumed that the development of these uses at the alternative site would utilize the same amount of acreage as would be utilized for the highway service component of the proposed project.

The various advantages and constraints associated with approval of the proposed project (H-S use only) at the Alternative Site are discussed below.

Land Use and Planning Policy

The site is located in a predominately agricultural area. The 50-acre parcel has been cultivated with irrigated row crops and the adjacent parcels are also in agricultural production. Approximately 64 acres of the property are designated for agricultural use in the General Plan. A General Plan Amendment from Agriculture to Highway Service and a Zone Reclassification from GA-40 (General Agriculture, 46-acre minimum) to H-S (Highway Service) were recently approved for a 50-acre portion of the site. (See Figure 28.)

The soils on the alternative site are identified as prime (Class I) soils by the USDA Soil Conservation Service. Development of the site would result in the loss of 50 acres of prime soils and will introduce an urban element which may not be compatible with the existing agricultural practices in the project area.

Traffic

The development of Highway Service uses at the alternative site would generate a total of 5,610 daily vehicle trips, with 340 (240 in, 100 out) AM peak hour trips and 450 (180 in, 270 out) PM peak hour trips. When compared to the proposed project, development at the alternative site would generate 13 percent of the peak hour traffic generated by the original project. All

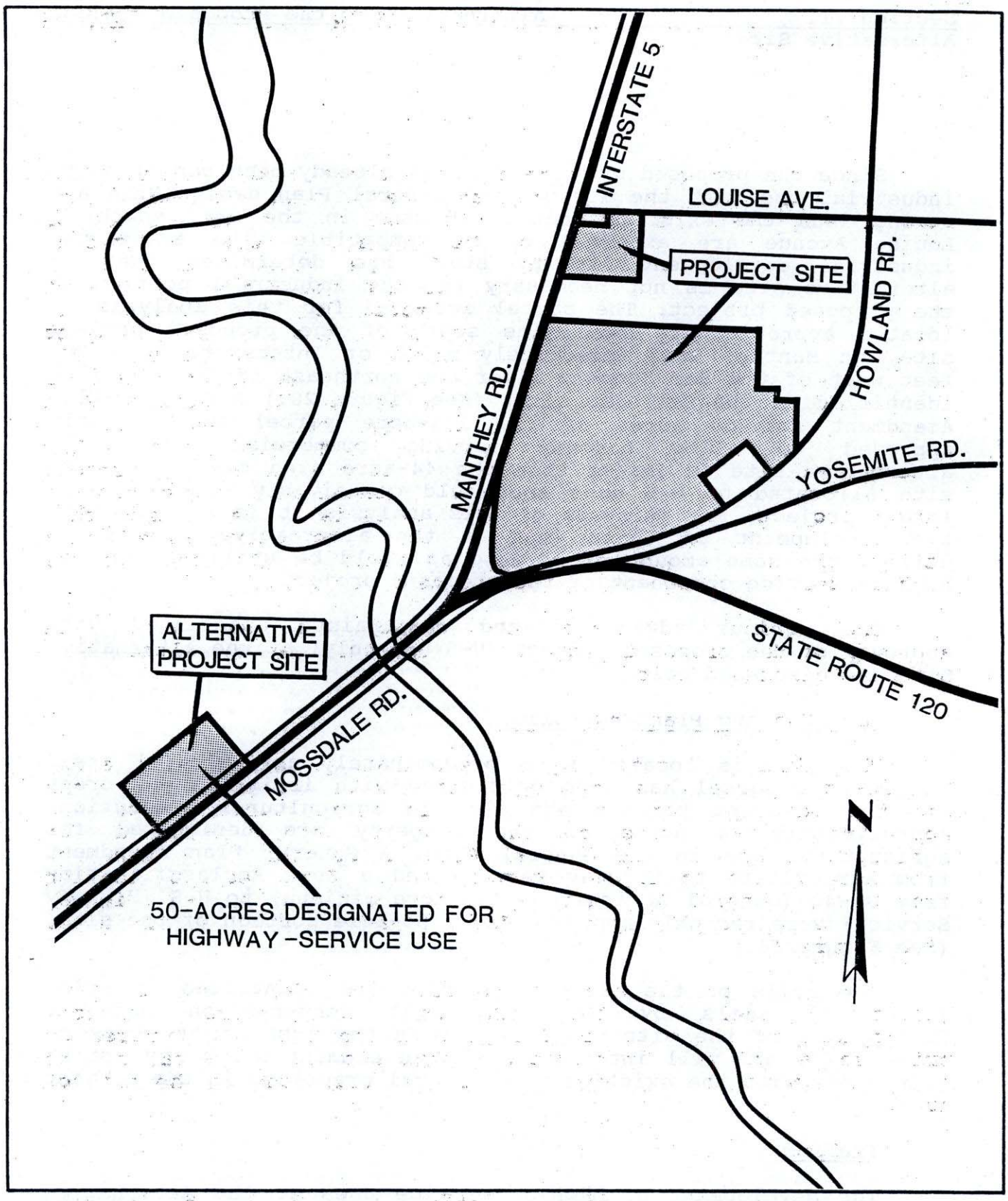

FIGURE 28 ALTERNATIVE SITE LOCATION

MILLS ASSOCIATES
Planning and Environmental Services

project traffic will gain access to the alternative site through the I-5/Manthey-Mossdale interchange. The added project traffic on Highway 120, I-5 and the Manthey-Mossdale ramps would increase the delay for the I-5 mainline traffic due to weaving. As discussed in the Traffic Section, the I-5/Manthey-Mossdale and SR 120 interchanges currently experience problems created by motorists attempting to cross several lanes of traffic within a short distance. Levels of service range from C to E depending upon direction and time of day. With existing weaving capacity problems, any additional traffic would aggravate this existing condition. With 75 percent of the project traffic from the highway serving commercial uses being pass-by trips, peak hour volumes on the Manthey-Mossdale ramp would be within the existing design capacity of 900-1,000 vehicles per hour. However, additional traffic on these ramps would add to the weaving problem.

The added project traffic from development of the alternative site would cause long delays to side street vehicles on the I-5 underpass at Manthey Road and also at Mossdale Road.

Air Quality

Local wind and temperature conditions at the alternative site are essentially the same as at the project site. Both are adjacent to significant line sources (freeways) of auto-related emissions. Since the highway service uses at the alternative site are essentially the same as at the project site, the total emissions resulting from this portion of the project would be the same. As noted in the Traffic Section of this report, the alternative site would contribute 13 percent of the total project traffic generation. The highway service use at the alternative site, plus the allowed limited industrial uses at the original site, will contribute the same total emissions into the regional air basin as if all of the project were at the project site.

Public Services and Utilities

The alternative site is located outside service boundaries of both the LCWD and the City of Manteca. Site development would have to conform to County Development policies applicable to highway service areas outside of urban centers. (Sections 9-10101 & 9-10201.) These requirements call for a wastewater treatment plant and water system to serve the area.

A water system for the area would utilize on-site water wells, storage tanks, pressure tanks, and distribution lines. The alternative site is expected to have groundwater of suitable quality for domestic purposes. A wastewater treatment plant would likely dispose of effluent above ground through the use of ponds or spray irrigation. The occurrence of shallow groundwater would

place limitations on the ability to percolate effluent resulting in the need to line the ponds. It would be necessary to develop mitigation measures beyond those identified for the proposed project to reduce the impacts associated with utilizing on-site water supply and wastewater disposal systems.

The development of highway serving commercial uses at this location would increase the demand for fire protection to the same extent as the proposed project. Specific mitigations relative to site access and internal circulation would be necessary at the time of devlopment plan review.

Implementation of this alternative would also significantly increase the demand for law enforcement services. The Sheriff's Department has expressed concern over the development of the highway service uses as this type of development typically generates a high rate of criminal activity. Development of these uses at the alternative site would still require that beat coverage in the area be upgraded. The mitigation measures recommended by the Sheriff's Department for the proposed project would also be necessary for development of the alternative site.

Hazards

The alternative site and areas within its vicinity are also subject to flooding in a 100-year flood incident. Alternative site development would be subject to the same County flood regulations as development of the proposed project site.

Due to the previous history of agricultural land use at the alternative site, the presence of hazardous and toxic wastes in the soil and groundwater is expected to be minimal. There would likely be detectable levels of various agricultural pesticides and other chemicals with agricultural uses, however, no significant concentrations are expected.

Growth Inducement

Implementation of this alternative or the approved Del'Osso GPA will have significant growth-inducing impacts on adjacent agriculture. A highway service use at this location will introduce an urban element into an area that is predominantly in agriculture and will foster growth on adjacent lands by setting a precedent for future GPA applications. Development of this alternative or the approved Del'Osso GPA will also provide new public water, sewer and storm drainage infrastructures which could encourage development of adjacent lands.

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1 San Joaquin County Zoning Ordinance, Chapter 2, page 76.
2 Institute of Transportation Engineers (ITE), Trip Generation, 4th Edition, 1987.
3 Kitty Walker, Senior Planner, San Joaquin County Planning Department, January 1989.

SECTION VIII

REPORT PREPARATION

A. ORGANIZATIONS AND PERSONS CONSULTED

1. Mile Cabak, Cabak and Associates.
2. Ben Cantu, planner, City of Manteca.
3. Roy Casteel, Lathrop County Water District.
4. Riche Cocke, engineer, California Department of Water Resources.
5. Diane Correia, real estate broker, Sterling Commercial Real Estate.
6. Dennis Cote, civil engineer, San Joaquin County Department of Public Works.
7. Charles Daniel, San Joaquin County analyst, Employment Development Department.
8. John D'Arcy, Kearny Ventures.
9. Jim Ennes, fire marshall, Manteca-Lathrop Rural Fire District.
10. Carl Hauge, Department of Water Resources.
11. Dale Hornberger, project manager, Brian, Kangas, Faulk.
12. Joe Hulsey, Public Works Department, City of Manteca.
13. Tom Iwaymiya, engineer, San Joaquin County Flood Control.
14. David Jinkens, City manager, City of Manteca.
15. Joan Jurancich, State Water Resources Control Board.
16. Robert Logan, attorney, Kearny Ventures.
17. Bill McDaniels, job service coordinator, Employment Development Department.
18. John Mendes, farmer.
19. James Miller, sanitarian, San Joaquin County Local Health District.
20. John Nichler, Occidental Chemical.
21. Manual Oliverra.
22. Tom Owens, project engineer, Thompson Hysell Engineers.
23. Tom Pinkos, engineer, Central Valley Regional Water Quality Control Board.
24. James Podesta, engineer, City of Manteca Public Works Department.
25. Greg Rayner, engineering technician, Sacramento District Corps of Engineers.
26. Arnold Schamber, engineer, Lathrop County Water District.
27. David Schmidt, economic development coordinator, City of Stockton.
28. Ronald Stein, Lathrop Incorporated.
29. Alexis Strauss, Environmental Protection Agency.
30. Kerry Sullivan, planner, San Joaquin County Planning Department.
31. Kitty Walker, senior planner, San Joaquin County Planning and Building Inspection Department.
32. Jim Thomas, Jr., assistant superintendent, Manteca Unified School District.
33. Jim Tjosvold, California Department of Health Services.
34. Paul Verdegaal, farm advisor, U.C. Extension.
35. Dan Ward, engineer, Central Valley Regional Water Quality Control Board.

B. PREPARERS OF THE REPORT

This document was prepared by Mills Associates, Moraga, California, for the San Joaquin County Department of Planning and Building Inspection. The following is a list of individuals involved in the report preparation.

Carolyn A. Mills, B.A., Project Director, Project Description, Land Use and Planning Policy, Cumulative Development, Noise.

Joanne Corey, B.A., Project Manager, Services/Utilities, Alternatives, Summary

Don Holtgrieve, Ph.D., Air Quality

Susanne Lei Allen, Graphics.

Linda R. Day, Report Production.

Omni-Means, Traffic and Circulation.

Questa Engineering, Drainage.

Economic and Planning Systems, Market and Housing Analysis.

Mills Associates' contact persons in the San Joaquin County Department of Planning and Building Inspection are Ms. Kitty Walker, senior planner, and Ms. Kerry Sullivan, planner.

TECHNICAL APPENDICES

APPENDIX A

FILE NO. ER-88-11/SU-87-25

DATE PREPARED 5-4-88

Portion of Initial Study

ENVIRONMENTAL ASSESSMENT

I. PROJECT DESCRIPTION: See attached sheet.

II. (For General Plan and Zoning Map Changes) TYPES OF USES NOT REQUIRING OTHER DISCRETIONARY PERMITS:

III. ENVIRONMENTAL DETERMINATION

Based on 1) the information contained in the application and Section IV of this form and 2)the assessment contained in Sections V and VI of this form, the following determination is made:

[ ] The project could not have a significant effect on the environment. A NEGATIVE DECLARATION WILL BE PREPARED.

[ ] Possibly significant effects will be reduced to a less than significant level by the added mitigation measures described on the attached sheet. A NEGATIVE DECLARATION WILL BE PREPARED.

[X] The project may have a significant effect on the environment. AN ENVIRONMENTAL IMPACT REPORT WILL BE PREPARED.

Chet Davisson, Environmental Review Officer

By: Kerry Sullivan, Title Associate Planner Date: 05/04/88

(8/85)

I. PROJECT DESCRIPTION (continued from previous page):

A. A General Plan Map Amendment to change the designation of 44 acres from General Industrial to Highway-Service, and to change the designation of 33.6 acres from General Industrial to Limited Industrial.

B. A Zone Reclassification to change the zoning of 44 acres from M-2 (General Manufacturing) to H-S (Highway-Service), and to rezone 33.6 acres from M-2 to C-M (Commercial Manufacturing).

C. A Major Subdivision to subdivide approximately 528 acres into the following: 54 parcels zoned M-2 for industrial development (approximately 450 acres), 2 parcels to be zoned H-S for Highway-Service development (approximately 44 acres), and 3 parcels to be zoned C-M for commercial-manufacturing development (approximately 33.6 acres).

IV. ENVIRONMENTAL INFORMATION

This information supplements that found in the project application

A. SITE INFORMATION

1. General Plan Location: Lathrop-Intermediate Center

_____ Rural Residential

☐ Other

2. Zoning: M-2 (General Industrial)

3 Aquifer Recharge

☐ substantial

☒ moderate

☐ slight or none

4. Flooding

☐ floodway

Site is in a flood hazard zone (Zone B), with flood elevations of 17 feet mean sea level.

☒ flood fringe

☐ outside of floodway or flood fringe

5. Noise Contours

☒ 70 CNEL or more

I-5: Projected CNEL contour distance in 2005 (along western portion of the site): 75db: 170'; 70db: 434'; 65db: 1005'; 60db: 2240'.

☐ 65 CNEL

☐ 60 CNEL

SPRR: Projected CNEL contour distance in 2005 (along eastern portion of the site): 75db: 58'; 70db: 126'; 65db: 270'; 60db: 583'.

☐ less than 60 CNEL

B. ESTIMATED POPULATION AND HOUSING (for residential projects)

1. Possible Population of N.A., based on N.A. per dwelling unit.

2. Estimated number of school children N.A.

3. Number of Possible Dwelling Units N.A. (for residential General Plan Amendments and Zoning Reclassifications only).

C. OTHER (include any necessary clarifications to information provided by applicant).

INSTRUCTIONS FOR COMPLETING SECTIONS V and VI: For the purposes of this assessment, "effects" is defined as an adverse change to the physical environment. Normal construction activities in a non-sensitive area should not be considered an effect. In Section V keep descriptions of effects brief but include all possible effects. If the effect is or may be significant, describe it and possible mitigation measures in Section VI. ("Significant effect" is defined in Section 15382 of CEQA Guidelines.)

V. ENVIRONMENTAL EFFECTS

A. NATURAL RESOURCES/ ENVIRONMENT	NO EFFECT	EFFECT	SIGNIFICANT EFFECT NO	MAYBE	YES
1. Earth Resources					
a. Topography	☐	Slight effect from normal grading operations associated with subdivision and construction activities. Not considered to be significant.	☒	☐	☐
b. Land Stability	☐		☒	☐	☐
c. Erosion	☐		☒	☐	☐
d. Siltation	☐		☒	☐	☐
2. Atmospheric Conditions					
a. Reactive Hydrocarbons	☐	Potentially significant impact on air quality from increased number of vehicles.	☐	☒	☐
b. Carbon Monoxide	☐		☐	☒	☐
c. Particulates	☐		☐	☒	☐
d. Other Pollutants	☒		☐	☐	☐
e. Odors	☐		☐	☒	☐
f. Climate	☒		☐	☐	☐
3. Water Resources					
a. Groundwater					
1) Quality	☐	Either Lathrop County Water District or City of Manteca will serve the site with potable water. Unknown but potentially significant impact upon the aquifer from additional pumping and drawdown.	☐	☒	☐
2) Quantity	☐		☐	☒	☐

	NO EFFECT	EFFECT	SIGNIFICANT EFFECT NO	MAYBE	YES
(3. Water Resources - cont.)					
b. Surface Water 1) Quality	☐	Increase in the amount of impervious surfaces will increase the amount of sheet flow across the site. Terminal drainage is proposed that will mitigate these impacts to a level of nonsignificance.	☒	☐	☐
2) Quantity	☐		☒	☐	☐
3) Flow	☐		☒	☐	☐
b. Irrigation	☒		☐	☐	☐
4. Biotic Resources a. Endangered or Rare Species	☒	None known to exist on-site.	☐	☐	☐
b. Species with Sport, Spectator, Scientific or Educational Values	☒	Only wildlife observed on-site were field rodents and birds (none with sport, spectator, scientific, or educational value).	☐	☐	☐
c. Migration Routes	☒	None known on-site.	☐	☐	☐
d. Habitat (Including Water)	☐	Site is covered with some grass and field crops, with limited habitat value. Loss of this limited habitat is not considered to be significant.	☒	☐	☐
e. Riparian Vegetation	☒	None exists on-site.	☐	☐	☐
f. Oak or Other Mature Trees	☐	Approximately 12-18 mature trees exist on-site, none of which are oaks. These trees are in poor health, or are dead. Removal of these trees is not considered to be significant.	☒	☐	☐
5. Mineral Resources Availability	☒		☐	☐	☐
B. LAND USE					
1. Conflict with Existing Residential, Commercial or Industrial Uses	☒	Project will be compatible with existing industrial uses south of Louise Avenue.	☐	☐	☐

B. LAND USE (cont.)	NO EFFECT	EFFECT	SIGNIFICANT EFFECT NO	MAYBE	YES
2. Conflict with Established Recreational, Educational, Religious or Scientific Uses of the Area	[X]		[ ]	[ ]	[ ]
3. Conflict with Planned Uses	[ ]	Proposed Highway-Service and Commercial-Manufacturing uses are not consistent with planned uses for this area.	[ ]	[X]	[ ]
4. Removal of Prime Agricultural Land	[ ]	Approximately 10 percent of the site (40-50 acres) is prime Class II farm land; the rest is Class III (nonprime).	[ ]	[X]	[ ]
5. Decrease in Productivity of Prime Agricultural Land	[X]		[ ]	[ ]	[ ]
6. Conflict with Irrigation System	[X]		[ ]	[ ]	[ ]
7. Trespass onto Surrounding Lands	[X]		[ ]	[ ]	[ ]
8. Disruption of Natural Area	[X]		[ ]	[ ]	[ ]
9. Public Recreation Resources: Quality, Quantity, Access to	[X]		[ ]	[ ]	[ ]
10. Public Access to Waterway	[X]		[ ]	[ ]	[ ]
11. Disturbance of or Encroachment on Archaeological or Historical Sites	[X]	None known to exist on-site. Site has also been farmed for several years, so it is likely that any sites would have been altered already.	[ ]	[ ]	[ ]
12. Disruption or Division of Established Community	[X]		[ ]	[ ]	[ ]
13. Removal of Existing Housing Stock	[X]		[ ]	[ ]	[ ]

	NO EFFECT	EFFECT	SIGNIFICANT EFFECT NO	MAYBE	YES
B. LAND USE (cont.)					
14. Displacement of Persons	X		☐	☐	☐
15. Demand for Housing	☐	Project will create jobs and increase demand, with unknown but potentially significant effects.	☐	X	☐
C. TRANSPORTATION					
1. Road Congestion	☐	Traffic impacts on Harlan Road, Louise Avenue, Vierra Road. Congestion at I-5/	☐	☐	X
2. Interchange/Intersection Congestion	☐	Louise Avenue interchange and Harland Road/ Louise Avenue intersection.	☐	☐	X
3. Traffic Hazards	☐	Potential hazard at Harlan Road/Louise Avenue intersection and Vierra Road/Harlan Road intersection from turning movements.	☐	X	☐
4. Access to Surrounding Area	☐	Access to a 40-acre remainder parcel owned by adjacent property owner may be limited.	☐	X	☐
5. Interference with Pedestrian or Bicycle Movement	X		☐	☐	☐
6. Public Transit	X		☐	☐	☐
7. Movement on Waterways	X		☐	☐	☐
8. Airport Flight Path	☐	Outside of the helicopter training flight pattern of Sharpe Army Depot.	X	☐	☐
9. Other: Not known.	☐		☐	☐	☐
D. UTILITIES					
1. Sewage: Contribution Beyond Capacity for Existing or Planned Uses	☐	Development will utilize either the City of Manteca of the Lathrop County Water District for public water and sanitary sewer.	☐	X	☐
2. Water: Demand Beyond Capacity for Existing or Planned Uses	☐		☐	X	☐
3. Drainage: Beyond System's Existing Capacity	☐	Public terminal drainage is proposed to the San Joaquin River.	X	☐	☐

	NO EFFECT	EFFECT	SIGNIFICANT EFFECT NO	MAYBE	YES
D. UTILITIES (cont.)					
4. Terminal Drainage: Beyond Channel's Carrying Capacity	X		☐	☐	☐
5. Solid Waste: Generation of Substantial Amount	☐	Regularly scheduled trash collection and trash enclosures will be required.	X	☐	☐
6. Power and Gas: Substantial Demand, Substantial New Facilities	☐	Underlying projects will not create a substantial, new demand for power.	X	☐	☐
E. OTHER PUBLIC SERVICES					
1. Police: Staff and Equipment	☐	Project will increase the demand for both police and fire protection.	☐	X	☐
2. Fire: Staff, Equipment, Facilities	☐		☐	X	☐
3. Schools: Overcrowding of Facilities	☐	Secondary impact associated with this project would be further overcrowding of Manteca schools.	☐	X	☐
4. Parks: Availability, Overuse	☐	A secondary impact associated with this project would be the need for additional parks.	☐	X	☐
5. Others: Availability	NA		☐	☐	☐
F. HAZARDS/NUISANCES					
1. Noise/Vibration a. generation	☐	All future development on-site will be subject to the County Noise Ordinance.	X	☐	☐
b. exposure of people to noise or vibration	☐	Adjacent to two noise generators (railroad and I-5). Not considered significant due to the uses that will be instituted (i.e., industrial and commercial).	X	☐	☐
2. Hazardous Materials a. use, generation, storage, disposal, or transportation	☐	The M-2 zone permits a wide range of industrial uses that may involve hazardous materials.	☐	X	☐

F. HAZARDS NUISANCES (cont.)	NO EFFECT	EFFECT	SIGNIFICANT EFFECT NO	MAYBE	YES
b. exposure of people to hazardous materials	☐	Two hazardous waste sites exist adjacent to the site with unknown but potentially significant impacts.	☐	☒	☐
3. Public Health					
a. creation of health hazards	☒		☐	☐	☐
b. exposure of people to health hazards	☐	Unknown but potentially significant impacts to people due to the proximity to two known hazardous waste sites adjacent to the property.	☐	☒	☐
4. Natural Hazards Affecting People or Construction					
a. from fire (brush, peat soils, etc.)	☒		☐	☐	☐
b. from earth movement (landslide, earthquake, subsidence, etc.)	☒		☐	☐	☐
5. Flooding					
a. increase in 100-Year Flood elevation or extent in area	☒		☐	☐	☐
b. exposure of people and property to 100-Year Flood	☐	Site is subject to flooding to a depth of 17 feet mean sea level.	☐	☐	☒
6. Visual Impacts					
a. aesthetic effect	☐	Unavoidable aesthetic impact. CC&R's will be required at the tentative map stage to ensure cohesive landscaping and architectual styles.	☒	☐	☐
b. light or glare conflicting with other uses	☐	Potential for light or glare to conflict with motorists on I-5. Conditions will be attached to the individual project applications to mitigate this to a leval of nonsignificance.	☒	☐	☐
7. Aircraft					
a. exposure of people and property to aircraft hazards	☐	Site is outside of the flight pattern of helicopters from nearby Sharpe Army Depot.	☒	☐	☐

	NO EFFECT	EFFECT	SIGNIFICANT EFFECT NO	MAYBE	YES
F. HAZARDS NUISANCES (cont.)					
8. Animal Health a. exposure of sensitive animals to noise, movement, etc.	X		☐	☐	☐
9. Emergency Plans: Interference With or Need for	X		☐	☐	☐
G. POLICIES AND PLANS					
1. Consistency with General Plan	☐	Industrial subdivision is consistent with the General Plan; however, the proposal to designate 44 acres as Highway-Service and 34 acres as Limited Industrial is not presently consistent.	☐	X	☐
2. Consistency with Specific Plans	X		☐	☐	☐
3. Consistency with Specific Road Plans	X		☐	☐	☐
4. Consistency with Other Plans and Policies	X		☐	☐	☐
H. CUMULATIVE IMPACTS[1]					
1. Traffic	☐	Cumulative traffic impacts anticipated on Louise Avenue, Harlan Road, Vierra Road, and at the I-5/Louise Avenue interchange.	☐	☐	X
2. Sewage Disposal	☐	Unknown but potentially significant impacts upon the City of Manteca or the Lathrop County Water District from serving this development.	☐	X	☐
3. Water Availability	☐		☐	X	☐
4. Drainage Systems	☐		X	☐	☐

[1] "Cumulative Impact" is defined in Section 15355 of the CEQA Guidelines.

II. CUMULATIVE IMPACTS (cont.)	NO EFFECT	EFFECT	SIGNIFICANT EFFECT NO	MAYBE	YES
5. Growth Inducement					
a. by utility sizing	☐	Providing services to this site, which is currently outside of the boundaries of both the City of Manteca and the Lathrop County Water District, may be growth inducing.	☐	☒	☐
b. by reduction in value of resources	☒		☐	☐	☐
c. by need for housing	☐	Unknown but potentially significant effect from increased demand for housing in area.	☐	☒	☐
d. by need for employment	☐	Beneficial impact; will create jobs.	☒	☐	☐
e. by need for services	☐	Will increase the need for services.	☐	☒	☐
f. by introduction of new type of land use into area	☐	Introduction of Highway-Service and Commercial uses on this site may be growth inducing.	☐	☒	☐
6. Other: Not known.	☒ NA		☐	☐	☐
I. OTHER POTENTIAL IMPACTS					
1.	☐		☐	☐	☐
2.	☐		☐	☐	☐
3.	☐		☐	☐	☐
4.	☐		☐	☐	☐

VI. DESCRIPTION OF SIGNIFICANT IMPACTS AND CONSTRAINTS TO DEVELOPMENT:

A. ATMOSPHERIC CONDITIONS:

Effect:

The industrial and commercial uses proposed will generate substantial traffic volumes that will have a potentially significant impact on air quality. San Joaquin County is currently a non-attainment area for ozone.

Mitigation:

A Transportation Demand Management Program could be implemented as a condition of the tentative map approval. This type of program would potentially reduce the volume of vehicles in the area and lessen the impacts of the project on air quality. However, no mitigation measures have been identified that will completely mitigate this impact to a level of nonsignificance. A variety of development controls are available to insure that only "clean" industrial uses will locate within the industrial park. These include the use of Conditions, Covenants, and Restrictions (CC&R's) and Development Agreements.

B. LAND USE:

Effect:

Industrial development is consistent with the General Plan designation and with the planned uses for the area. The proposed Highway Service and Commercial Manufacturing uses (approximately 44 acres and 33.6 acres, respectively) are not currently consistent with the planned uses for this area. Recently, approximately 50 acres north of Louise Avenue was rezoned to C-2. None of this property has yet been developed, and it is unknown if the community can support an additional 77.6 acres of property zoned H-S and C-M. It should be noted, however, that the 50 acres of existing C-2 property is planned for community commercial type uses and that the applicant intends to develop the 33 acres of property zoned Commercial-Manufacturing with large-scale commercial uses catering to a regional market and requiring a highly visible location (i.e., in this case, adjacent to I-5).

Though the site is planned for industrial development, there will be a loss of prime farmland resulting from this project. Approximately 10 percent of the site is comprised of Class II soil (Merritt silty clay loam and Veritas fine sandy loam). The rest is nonprime Class III soil. Much of the site is now used for row crops.

It is also anticipated that development of the site will create jobs and stimulate the demand for housing in the area.

Mitigation:

A market study and a land use inventory of vacant, available, commercially designated property in the Lathrop area should be prepared that assesses the appropriateness of creating additional Highway Service and Commercial Manufacturing property in the community. Development Agreements can be attached to the approval of the General Plan Amendment and Zone Reclassification for the 33 acres of Commercial-Manufacturing property to exclude community-commercial type uses and to limit the permitted uses on the property.

A development plan encompassing the entire area is a requirement of the H-S zone. This can be prepared and submitted to illustrate and support the designation of an additional 44 acres.

C. WATER AND SANITARY SEWER:

Either the Lathrop County Water District (LCWD) or the City of Manteca will serve the site with potable water and sanitary sewer. It is unknown what effects additional pumping of groundwater will have upon the aquifer. Additionally, if the City of Manteca serves this site with potable water, will the provision of water to another area within the City be precluded (i.e., what is the opportunity cost of serving this site)? Though both the LCWD and the City of Manteca have indicated that they are willing and able to serve the site with water and sewer, it should be documented that adequate capacity and resources exist for such services.

Providing services to the site may also be growth inducing. For additional details on this issue, see the following discussion under Part H entitled "Growth Inducement."

D. TRAFFIC:

Effect:

The project is expected to have a significant impact upon area traffic, particularly if the Highway-Service and Commercial-Manufacturing General Plan Amendments and Rezonings are approved.

Congestion is anticipated on the following roadways: Harlan Road, Louise Avenue, Vierra Road, and at the Louise Avenue/Interstate 5 interchange. Cumulative

traffic impacts are also anticipated as a result of this and other development on Louise Avenue.

A potential traffic hazard exists at the intersection of Vierra Road and Howland Road on the eastern boundary of the proposed development. Vierra Road is elevated several feet above grade to cross the raised railroad tracks just east of the Vierra Road-Howland Road intersection and is also not aligned to intersect Howland Road at a 90 degree angle. Consequently, sight distance at this intersection is extremely limited.

Development of the subdivision may make access difficult to a portion of the existing Libbey-Owens-Ford property located to the northwest of the subject site. In a meeting held with the developer and representatives from various County offices, it was discussed that the EIR should include an analysis of four access alternatives to the Libby-Owens-Ford site.

Mitigation:

No measures have been identified that will entirely mitigate these impacts to a level of nonsignificance. Possible attenuations include the following: signalization of the Louise Avenue/Interstate 5 intersection, realignment of Vierra Road, implementation of a Transportation Demand Management Program, and the expansion or reconstruction of the Louise Avenue/I-5 interchange. The analysis of four access alternatives to the Libby-Owens-Ford site should also be included in the EIR.

E. PUBLIC SERVICES:

Effect:

The project will increase the demand for both police and fire protection. Two secondary impacts associated with this development could be the further overcrowding of the Manteca Unified School facilities and increased demand for parklands as a result of an increase in jobs and corresponding increase in local population resulting from the proposed project.

Mitigation:

No measures have been identified to mitigate the increased demand for police protection. The Manteca-Lathrop Rural Fire District is in the process of developing fire development fees that would be collected at the issuance of Building Permits. These fees may be in effect at the time this project is built.

The school district is currently collecting development fees, which will aid the problem of overcrowding. Also,

an additional school site has been recently acquired at the intersection of McKinley Avenue and Louise Avenue. This school is planned to be in use by Fall 1990 and should help to alleviate the existing overcrowding. A representative from Sharpe Army Depot has indicated that the helicopter flight training pattern will be relocated west of I-5, which should make the siting of a third school site possible within the community of Lathrop.

F. HAZARDS/NUISANCES:

(1) Hazardous Materials:

Effect:

The M-2 zone permits the widest range of industrial uses. Though the subdivision is planned primarily for warehousing-type uses, the zoning could permit a wide variety of uses to locate within the development, including those that involve hazardous materials.

Two hazardous waste sites have been identified adjacent to the subject site, with unknown but potentially significant impacts. There is no information on one of the waste sites (Air Products and Chemicals, APN 195-270-04). The other site (Occidental Chemical Company, APN 195-270-02, 03, 04) involves the contamination of the groundwater with DBCP, EDB, and other pesticides. Remedial action is in place at the second site to extract and treat contaminated groundwater.

Mitigation:

Conditions, Covenants, and Restrictions (CC&R's) should be required as a condition of tentative map approval to control the types of uses locating within the industrial park.

An analysis should be prepared to determine the extent of and migration of the hazardous materials into the soils and water table at the subject site.

(2) FLOODING:

Effect:

The site is subject to flooding to a depth of 17 feet mean sea level (portions of the subject site are 10 feet mean sea level).

Mitigation:

Mitigation could include the developer participating in the construction of a levee along the east

bank of the San Joaquin River, from approximately French Camp Slough to State Route 120 (Reclamation District 17). Construction of this levee will remove the site from the flood hazard zone. Additional or alternative mitigation will be identified at a later date.

G. CONSISTENCY WITH THE GENERAL PLAN:

Effect:

The industrial subdivision is consistent with the General Plan. The creation of 44 ± acres of Highway Service property at the corner of Louise Avenue and Harlan Road may conflict with the text of the General Plan, specifically with Commercial Principle No. 9(f), which seeks to discourage the scattering of Highway Service uses. Additionally, designating an additional 34 ± acres as Limited Industrial may not be consistent with the General Plan. The implementing zone the applicant wishes is Commercial Manufacturing for the development of large-scale, regional, commercial uses.

Mitigation: None identified.

H. GROWTH INDUCEMENT:

Effect:

The proposed project is growth inducing from several perspectives. The site is currently outside of the boundaries of any serving entity for public water and sanitary sewer. Public services will be required for the project to be approved. Providing services to this site may be growth inducing. Depending upon the line sizes and route used, providing services could induce additional development on other vacant properties in the general vicinity.

The project may also be growth inducing by the need for other public services, by the need for additional housing, and by the introduction of Highway Service and Commercial uses into the area south of Louise Avenue.

Mitigation: None identified.

* * *

ATE OF CALIFORNIA—OFFICE OF THE GOVERNOR

GEORGE DEUKMEJIAN, Governor

OFFICE OF PLANNING AND RESEARCH
400 TENTH STREET
ACRAMENTO, CA 95814

DATE: July 12, 1988

TO: Reviewing Agencies

RE: San Joaquin County's NOP for
Louise Industrial Park/Kearny Ventures Ltd.
SCH# 88070516

Attached for your comment is San Joaquin County's Notice of Preparation of a draft Environmental Impact Report (EIR) for Louise Industrial Park/Kearny Ventures, Ltd.

Responsible agencies must transmit their concerns and comments on the scope and content of the EIR, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of this notice. We encourage commenting agencies to respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Kerry Sullivan
San Joaquin County
1810 East Hazelton Avenue
Stockton, CA 95205

with a copy to the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the review process, call Loreen McMahon at 916/445-0613.

Sincerely,

David C. Nunenkamp
Chief
Office of Permit Assistance

Attachments

cc: Kerry Sullivan

We have reviewed subject project or report & have no comments at this time.
original signed by:
JAMES D. MESSERSMITH
Regional Manager
Department of Fish & Game
Region II
Date: JUL 15 1988

STATE OF CALIFORNIA—THE RESOURCES AGENCY GEORGE DEUKMEJIAN, *Governor*

DEPARTMENT OF CONSERVATION
DIVISION OF ADMINISTRATION
DIVISION OF MINES AND GEOLOGY
DIVISION OF OIL AND GAS
DIVISION OF RECYCLING

1416 Ninth Street
SACRAMENTO, CA 95814
TDD (916) 324-2555
ATSS 454-2555
(916) 322-5873

August 3, 1988

Ms. Kerry Sullivan
San Joaquin County
Planning Department
1810 East Hazelton Avenue
Stockton, CA 95205

Dear Ms. Sullivan:

Subject: Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Louise Industrial Park. SCH# 88070516.

The Department of Conservation has reviewed the County of San Joaquin's NOP for the project referenced above. The Department is responsible for monitoring farmland conversion on a statewide basis and also administers the California Land Conservation (Williamson) Act. Because the proposal involves the loss of valuable farmland, the Department offers the following comments.

The proposed project will convert 528 acres of currently-productive agricultural land to an industrial park. The Soil Conservation Service has identified approximately 50 acres as Class II (usually considered prime agricultural land) and the rest as Class III. There are no Williamson Act contracts on the site.

The loss of prime agricultural land should be identified and treated as a significant environmental impact. The California Administrative Code (Section 15000 et seq., Appendix G (y)) states that 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. Since it appears that this project will have such an effect, the Draft Environmental Impact Report (DEIR) should provide information on the number of acres of agricultural land to be developed, the potential agricultural value of the site, the impacts of farmland conversion, and

possible mitigation actions. Specifically, we recommend that the DEIR contain the following information to ensure the adequate assessment of the project's impacts in these areas.

- o The agricultural character of the area covered by the project and of nearby or surrounding lands which may be affected by the conversion.
  - Types and relative yields of crops grown in the affected areas, or in areas of similar soils under good agricultural management.
  - Agricultural potential, based on the U. S. Department of Agriculture's (USDA) Land Capability Classification system.
- o Farmland Conversion Impacts.
  - The type, amount and location of farmland conversion that would result from implementation of the project.
  - The impact on current and future agricultural operations.
  - The cumulative and growth-inducing impact of the project on farmland in the surrounding area.
  - The economic impacts of the farmland conversion. (In assessing these impacts, use should be made of economic multipliers, such as those used in the University of California Cooperative Extension's study, "Economic Impacts of Agricultural Production and Processing in Stanislaus County.")
- o Mitigation measures and alternatives that would lessen the farmland conversion impact of the project. Some of the possibilities are:
  - Direct urban growth to lower-quality soils in order to protect prime agricultural land.
  - Protect other, existing farmland of equivalent, or better, quality through the use of Williamson Act contracts.
  - Investigate other direct and indirect farmland protection alternatives. Some examples are public or county purchase, or donation of development rights.
  - Consider farmland trusts, which have been established by other counties such as the Marin Farmland Trust, which can be used effectively to preserve agricultural land and should be considered in the analysis of mitigation alternatives.

The Department appreciates the opportunity to comment on the NOP. We hope that the farmland conversion impacts are given adequate consideration in the DEIR. If I can be of further assistance, please feel free to call me at (916) 322-5873.

Sincerely,

Dennis J. O'Bryant

Dennis J. O'Bryant
Environmental Program Coordinator

PG:DJO:it
0231q/0005q

cc: Stephen Oliva, Chief
Office of Land Conservation

United States Department of Agriculture

Soil Conservation Service

USDA SOIL CONSERVATION SERVICE
1222 MONACO COURT, # 23
STOCKTON, CA 95207

7/8/88

Mr Harry Isles
SJCo Dept of Plan & Bldg Insp
1810 East Hazelton Ave
Stockton, CA
95205

RECEIVED
JUL 11 1988
SAN JOAQUIN COUNTY
PLANNING DIVISION

Dear Mr Isles,
We have reviewed Notice of Preparation EIR #0 ER-88-11 and wish to make the following comments.

The proposed site has seven soils within it.

1- ME- Merrill silty clay loam, partially drained, 0-2 % slopes. US SCS Capability Units IIw-2 irrigated, IVw 2 non-irr. (Prime Farmland-)

2. MV-VM - Manteca fine sandy loam, 0-2 % slopes US SCS Capability Units IIIs-8, irrigated, IVs 8 Non. irr.

3. HR- Scribner clay loam, partially drained, 0-2 % slopes US SCS Capability Units IIw2 irrigated, IVw 4 non-irr. (Prime Farmland)

4 - VH-DN- Veritas fine sandy loam, hardpan substratum 0-2 % slopes - US SCS Capability Units IIs 8 irr, IVs 8 Non-irr (Prime Farmland)

5. TS - Tinnin loamy coarse sand, 0-2 % slopes US SCS capability Units IIIs-4 irr, IVs-4 Non-irr.

6. SC, TT Tinnin loamy sand, hardpan substratum, 0-2 % US SCS Capability Units IIIs-4 irr, IVs 4 Non-irr.

7- DH Delhi loamy sand - 0-2 % slopes US SCS Capability Units IIIs 4 irr., IVs 4 non-irr.

You will note that three of these soils are classified as Prime Farmland. A soils map and descriptions are attached.

Sincerely,

Clifford C. Jorgensen

RC

SAN JOAQUIN LOCAL HEALTH DISTRICT

1601 East Hazelton Avenue
Stockton, California 95205

JOGI KHANNA, M.D., M.P.H., DISTRICT HEALTH OFFICER

July 26, 1988

San Joaquin Planning Division
1810 E. Hazelton Ave.
Stockton, CA 95205
ATTN: Kerry Sullivan

RE: ER-88-11

The San Joaquin Local Health District has the following comments regarding the preparation of the above referenced Environmental Impact Report:

1. Water and Sanitary Sewer: the questions posed in the Notice of Preparation, page 2, Significant Impact C should be addressed in detail.

2. Hazards/Nuisances: the former Occidental Chemical Company facility is under site investigation by the Department of Health Services. There are existing extraction, injection and monitoring wells on this site as well as a number of monitoring wells on the project site. Further assessments need to be made regarding the ongoing site mitigation and the impact on the project site. DOHS should be contacted regarding the EIR: Site Mitigation
   c/o Jim Tjosvold
   82 Scripts Dr., Suite 101
   Sacramento, CA 95825

3. The Central Valley Regional Water Quality Control Board should also be contacted. This is a high ground water area and dewatering wells installed to lower the water table could be contaminated. In addition, storm drainage may be impacted.
   Contact: CVRWQCB
   c/o Dan Ward
   3443 Routier Rd.
   Sacramento, CA 95827-3098

For any information that may be needed from the Health District, contact Fred Kaufman, Supervisor, at: (209) 468-3426.

Jogi Khanna, M.D., M.P.H.
District Health Officer

Ron Valinoti, Director
Environmental Health Division

OFFICE OF THE
COUNTY COUNSEL
COUNTY OF SAN JOAQUIN
COURTHOUSE, ROOM 711
222 EAST WEBER AVENUE
STOCKTON, CALIFORNIA 95202
TELEPHONE 944-3551 (AREA CODE 209)

JOHN F. CHEADLE
COUNTY COUNSEL

TERRENCE R. DERMODY
ASSISTANT COUNTY COUNSEL

PATRICK H. CURRAN
CHIEF LITIGATION DEPUTY

MICHAEL McGREW
CHIEF DEPUTY

DEPUTY COUNTY COUNSEL
PATRICIA M. FREDERICK
REBECCA DAVIS
FRANK V. BRUNO, JR.
SANDRA MICHAEL AFFONSO
DAVID WOOTEN
STEVEN B. BASSOFF

LITIGATION DEPUTY:
GILBERTO GUTIERREZ
DAVID T. HAYDEN
RONALD J. D'AIUTO

CHILD PROTECTIVE SERVICES COUNSEL:
JANINE MOLGAARD
ROBERTA C. LAGOMARSINI

LITIGATION RESEARCH ANALYST:
CAROL D. STILES, Esq.

October 14, 1988

M E M O R A N D U M

TO: HENRY M. HIRATA
Director of Public Works
CHET DAVISSON
Director of Planning and Building Inspection
U.D.C.C. MEMBERS

FR: SANDRA MICHAEL AFFONSO
Deputy County Counsel

RE: GENERAL PLAN REQUIRES LEVEL OF SERVICE "C" FOR ROADWAYS

It has come to my attention that there is some confusion and misunderstanding regarding the application of General Plan principles concerning the circulation patterns as they relate to the land use policies. This memo will hopefully clarify some of the confusion.

BACKGROUND

Recently, one of the Draft EIRs for a Development Project indicated that the proposed project would create an impact on a particular roadway that would reduce the present level of service from "C" to "D". The environmental report concluded that "D" was an acceptable level of service and therefore the project would be consistent with the General Plan. This conclusion regarding consistency is incorrect as explained below.

BASED UPON THE RECENT APPELLATE COURT OPINION IN THE CASE OF CONCERNED CITIZENS OF THE COUNTY OF SAN JOAQUIN V. BOARD OF SUPERVISORS, DEVELOPMENT THAT WOULD CAUSE THE LEVEL OF SERVICE TO DROP BELOW "C" IS PROHIBITED BY OUR GENERAL PLAN POLICIES.

This conclusion is based upon the principle which states "all significant trip generators shall be served by roads of adequate capacity and design standards to provide reasonable and safe access by appropriate transportation modes with minimum delay." (Emphasis added by the Appellate Court.) In defense of the Plaintiff's rude attack on our County's General Plan, the County's Chief Litigation Attorney, Patrick Curran, competently argued to the Court that our General Plan was adequate and that the correlation between our Land Use Element and our Circulation Element is legally sufficient. Since all significant trip generators must be served by adequate roads subject only to "minimum delay", it is implicitly understood that the minimum level of service on County roadways would be designated "C". (Level of service "D" is considered unstable flow with possible stoppages including short periods of substantial delays.) The Appellate Court determined that this principle "would not allow development if that development would cause level of roadway service to drop below level 'C'", and thus held that our General Plan's Circulation Element was appropriately correlated with the Plan's Land Use Element. Therefore, our General Plan met the test that Calaveras County failed in the Concerned Citizens of Calaveras County v. Board of Supervisors case cited by the Appellate Court at 166 Cal.App.3d at page 103.

If you think the application of this principle will severely limit the ability to approve development in this County, you are right. I am told that many of the roadways are already at level of service "D" and applications for projects which would be considered "significant trip generators" could not be approved unless substantial, costly improvements were made on County roadways. Many people say that level of service "D" is an acceptable level. "Acceptable to whom?" is the question that must be addressed by the policymakers. Again, it's a balancing act that must weigh the benefits of development versus the inconvenience of congestion and hazards created by increased roadway traffic. Since this is a legislative determination, the General Plan policy is subject to amendment based upon appropriate environmental review, public notice and hearings.

It is my understanding that the Circulation Policies and Roadway Standards are being reviewed by our General Plan Consultants and appropriate changes will be recommended. In the meantime, all land use approvals are subject to the consistency requirements with General Plan principles. If a finding cannot be made that the project is consistent with the General Plan policies, the project must be denied.

SAN JOAQUIN LOCAL HEALTH DISTRICT
1601 East Hazelton Avenue
Stockton, California 95205
P.O. BOX 2009
JOGI KHANNA, M.D., M.P.H., DISTRICT HEALTH OFFICER

July 27, 1988

Ms. Kerry Sullivan
San Joaquin County
Planning Division
1810 East Hazelton Ave.
Stockton, CA 95205

RE: EIR 88-11-Notice of Preparation of Environmental Impact Report for Kearny Venture Crossroads Industrial Park.

The San Joaquin County Air Pollution Control District has reviewed the Notice of Preparation of an EIR for Kearny Ventures Crossroads Industrial Park located in the area bounded by Louise Avenue on the east and south, and Harlan Road and Interstate 5 on the west, in the southern portion of the unincorporated community of Lathrop wherein a General Plan Amendment, a Zone Reclassification and a Major Subdivision is proposed to facilitate the development of industrial, commercial-manufacturing and highway service.
The district has the following comments and recommendations.

1. San Joaquin County's air quality relative to National Ambient Air Quality Standards set forth in the Clean Air Act is as follows:

PM_{10} - Non - attainment

CO - Non - attainment(for the Stockton Metropolitan Statistical Area only)

Ozone - Non - attainment(possible SIP call area)

Although the proposed development will only generate PM_{10} emissions during the construction processes, the possible amounts which could be emitted into the atmosphere are of some concern to the District. The E.I.R. does not address the use of dust control practices or provide a schedule for grading and site preparation activities.

2. The District requests the applicant to qualify emissions from the increased vehicular traffic and industrial/commercial development and conduct modeling to determine the air quality impact of the proposed project.

3. mitigation measures such as improved traffic flow, voluntary ridesharing, park and ride lots, etc. should be identified and incorporated in the report to minimize the effect of the proposed project on the air quality.

4. The industrial/commercial development may become the site for stationary sources of air pollution. Any stationary sources would have to comply with all pertinent rules and regulations

5. The District also requests that a detailed list of all fuel burning equipment used in the grading and excavation operation, is to be submitted by the applicants.

The District appreciates the opportunity to comment on the E.I.R. If you have any questions regarding the matter, please do not hesitate to contact Jorge De Guzman at (209) 468-3478

Jogi Khanna, M.D;M.P.H.
District Health Officer and
Air Pollution Control Officer

Lakhmir Grewal

Lakhmir Grewal, Director
Air Pollution Control District

STATE OF CALIFORNIA

AIR RESOURCES BOARD
02 Q STREET
. BOX 2815
CRAMENTO, CA 95812

GEORGE DEUKMEJIAN, *Governor*

August 3, 1988

RECEIVED
AUG 4 1988
SAN JOAQUIN COUNTY
PLANNING DIVISION

Ms. Kerry Sullivan
San Joaquin County
Planning Department
1810 E. Hazelton Avenue
Stockton, CA 95205

Dear Ms. Sullivan:

SCH No. 88070516
Louise Industrial Park/Kearny Ventures Ltd.

We have reviewed your July 12, 1988, Notice of Preparation (NOP) for the subject Draft Environmental Impact Report (DEIR). We thank you for the opportunity to comment.

PROJECT DESCRIPTION:

The proposed project consists of a general plan amendment, a zone reclassification, and a major subdivision for approximately 528 acres in the southern portion of the unincorporated community of Lathrop. Approximately 450 acres are designated for industrial development, 44 acres are to be zoned for highway-service use, with the remaining 33.6 acres planned for commercial-manufacturing purposes.

COMMENTS:

The NOP indicates there will be impacts on air quality from the project. We agree, as the project will include site preparation and construction, vehicle trips associated with the commercial activities, and growth-inducing effects.

To assure a thorough analysis of the potential environmental impacts of the proposed project, the DEIR should include an air quality impact analysis and place emphasis on the identification of measures to mitigate the project's emissions to the maximum extent feasible.

Enclosed are our "Guidelines for Air Quality Impact Assessment." These guidelines describe the types of information which should be contained in the DEIR and include a list of mitigation measures which we recommend you review for their applicability to each project.

Please note that mitigation measures chosen to reduce the length and frequency of automobile trips should be designed to fit specific project conditions and the potential emission

reductions should be quantified. In addition, we recommend that the DEIR identify who is to implement each mitigation measure at various phases of project implementation; identify needed financial commitments and requirements for future tenants or employees; and include a process for monitoring the implementation.

If we can provide additional information or assistance, please contact Jon Pederson at (916) 323-8902.

Sincerely,

Raymond E. Menebroker, Chief
Project Assessment Branch
Stationary Source Division

Enclosure

cc: Loreen McMahon, OPR
Terrie Barrie, Caltrans District 10
Jogi Khanna, San Joaquin County APCD
Peter D. Verdoon, SJCCOG
Leroy Neva, Stockton Met. Transit District
Mark Brucker, EPA Region IX

RONALD M. STEIN

Attorney at Law

5345 North El Dorado - Suite 7
Stockton, California 95207
209 / 478-2621

July 5, 1988

Ms. Kerry Sullivan
San Joaquin County Planning Division
1810 East Hazelton Avenue
Stockton, California 95205

RE: Comments on Notice of Preparation-EIR No. 88-11

Dear Ms. Sullivan:

On June 30, 1988 I sent in a letter with comments on the Notice of Preparation on the Environmental Impact Report No. ER-88-11. Subsequent to that time I had an opportunity to review in more detail the Notice of Preparation and I felt that it was necessary to send further comments on same.

In reviewing the Traffic on page 2 of the Notice of Preparation I note there was no mention of Lathrop Road. As I am sure you are aware because of the dangerous condition on the 120 Bypass many, many motorists use Lathrop Road as a boulevard to travel from I-5 to 99 and visa-versa. It is my suggestion that you include in your Environmental Impact Report a study of the present traffic conditions as well as the effect that this project will have on Lathrop Road.

You cannot be unmindful of the number of accidents and near accidents that have happened in the last year and a half on Lathrop Road, so I believe that it is very necessary for you to complete an adequate study of the effects of this project on Lathrop Road.

Further, in my letter of June 30, 1988, I mentioned that the County must look at its General Plan as well as Manteca's General Plan to determine whether there is adequate funding in the Plan to remedy the traffic impacts which will be caused by this project as well as other projects within the area. As you are well aware it is not enough to say that you are awaiting

money from the California Transportation Agency or from the State Legislature in order to allow you to continue with a Project. The adequate funding source must be known and available at this time before you can proceed with a project which will adversely impact already overcrowded roads.

You should note in your initial study that you mentioned cumulative traffic hazard anticipated on Louise Avenue, Harlan Road and Vieria Road and at the I-5/Louise Avenue interchange but you did forget to discuss the impact on Lathrop Road. Again, I believe that it is very necessary to include that in your discussion.

Under the cumulative impacts in the initial study and also in the Notice of Preparation on Page 2, Water and Sanitary Sewer, you mention Sewer and Water Service by either Lathrop County Water District or City of Manteca, I am assuming that there will be a study which will show the effects on both the City of Manteca and Lathrop County Water District of service to this project.

I find most interesting that in reviewing your Initial Study that you show no check mark for Cumulative Impact to Air Quality and I think this is a real mistake on the part of the County considering that we are a nonattainment County. As I said in my letter of June 30th, it is most important that you conduct an adequate cumulative impact study focusing on all of the past, present and potential future projects in the area that have caused Air Pollution. Further, that you determine ways to mitigate the Cumulative Impacts of same.

The County should not be permitting any project to be approved without adequate mitigation measures which will lessen or reduce the Air Quality Impacts of said projects.

Thank you very much.

Sincerely,

RONALD M. STEIN

RMS:kab
cc: LATHROP INCORPORATION COMMITTEE,c/o Karen McKee

Land Utilization Alliance

P O BOX 1259 STOCKTON CA 95201 (209) 465-4265

July 14, 1988

Ms Kerry Sullivan
San Joaquin County Planning Division
1810 East Hazelton Avenue
Stockton, CA 95205

RE: Comments to Notice of Preparation of EIR 88-11

Dear Ms Sullivan:

Land Utilization Alliance is concerned that the following issues be addressed in the Louise Industrial Park/Kearney Ventures Ltd. EIR.

1. The report should identify and quantify the contribution this project would make to the further degradation of air quality in the regional air basin. As this area is the most important section of any EIR developed for San Joaquin County, we request that the lead agency demand comments from County Air Polution District the State Air Resources Board and the Environmental Protection Agency before concluding this section.

Further, in section V. A. 2. of the initial study the air quality impact is not properly addressed. When you consider the cumulative effects of this project along with other projects in the county and region, you must upgrade the effects on air quality to be very significant. Under CEQA Guidelines Appendix G, a significant air quality effect is cited as a project which will contribute to an existing or projected air quality violation. San Joaquin County is in violation of state and federal standards for air polution.

2. The cumulative effects of taking prime agricultural land out of production in this county should be addressed. Totals of all lands taken out of production over the last 20 years should be determined. Using the accelerated trend of agricultural land conversion, the preparer should project forward into the future to the point where all prime agricultural land is lost. Compare this with county general plan policies which deal with prime farmland.

3. The EIR should address the growth inducing aspects on the surrounding farmland. The pressures for development of those ag lands will change the character of their ag operations forever. If this project is annexed to the City of Manteca, the required 1 mile sphere of influence for Manteca will be pushed even further into prime farmland.

4. The report should pursue on-site and off-site alternatives to the project in order to avoid impacts on air quality and loss of prime agricultural lands. The off-site alternatives need not be in this county as the size of this project warrants it being included anywhere in the region.

Thank you for the opportunity to make these comments.

Sincerely,

Raj

Raj Ramaiya, Coordinator

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF TRANSPORTATION
P.O. BOX 2048 (1976 E. CHARTER WAY)
OCKTON, CA 95201
D (209) 948-7853
(209) 948-3687

July 22, 1988

10-SJ-5-16.47
San Joaquin County
Kearny Ventures Crossroads
Industrial Park/Notice of
Preparation of an EIR ER-88-11
SCH #88070516

Ms. Kerry Sullivan
San Joaquin County
Planning Division
1810 East Hazelton Avenue
Stockton, CA 95205

Dear Ms. Sullivan:

Caltrans has reviewed the Notice of Preparation of an EIR for Kearny Ventures Crossroads Industrial Park and offers the following comments:

As noted in the Initial Study, traffic generated by this development will adversely effect several transportation facilities in the area. In order to adequately assess the impacts, a traffic analysis needs to be prepared. The analysis should include the following:

- An estimation of the project's total trip generation using recognized trip generation factors.
- An estimation of the directional distribution of the project's trips.
- An estimation of the existing and projected peak hour traffic conditions in the vicinity of the site.
- An evaluation of the project's impact on the Level of Service of the key intersections in the area.
- A discussion which recommends mitigation measures for significant impacts and a reference to funding responsibility for any improvements made necessary by project traffic.

. A discussion of traffic generated by other projects in the Louise Avenue area so that cumulative impacts can be calculated.

Caltrans is specifically interested in the impacts that are expected on I-5 and its interchange with Louise Avenue.

We appreciate the opportunity to comment on the Notice of Preparation and look forward to reviewing the EIR. Any questions regarding this review may be directed to Al Johnson at Caltrans, telephone (209) 948-7838.

Very truly yours,

for TERRY L. BARRIE
IGR Coordinator

cc: P Verdoorn/SJCCOG
K Tam/SJCAPCD

RONALD M. STEIN
Attorney at Law

5845 North El Dorado - Suite 7
Stockton, California 95207
209 / 478-2621

July 11, 1988

Diane Fishburn
c/o Air Resources Board
1102 Q Street
Sacramento, California 95814

Dear Diane:

This letter is somewhat of a follow-up to the letter I sent you last week, dated July 7, 1988 as it relates to San Joaquin County and Air Pollution Maintenance Control.

First of all, let me say I really appreciate your sending my copies of the Bay Area Quality Management District Air Quality and Urban Development Paper as well as the South Coast Area Quality Mangement District Air Quality Handbook. Both books were most educational. One area that I must question you about, is who has the duty to determine whether a project is consistent with a Regional Air Quality Maintenance Plan?? Secondly, who has the duty to prepare and update the Regional Air Quality Maintenance Plan, and thirdly, who has the responsibilty to enforce the Regional Air Quality Maintenance Plan?

I had an opportunity to review the Health and Safety Code Section 39500 et seq., which seems to denote that the State Air Resources Board has the responsibility to the control Admissions from motor vehicles, and that the State Air Resources Board has the responsibility to coordinate, encourage and review the efforts of all levels of government as they effect Air Quality. With that Section in mind, I wonder what responsibility the Board has to determine if a local area, such as San Joaquin County, is in fact doing anything to control the Admissions from motor vehicles. It would seem that the State Air Resources Board would have the responsibility to determine compliance. As I am sure you are well aware, the San Joaquin Valley has been out of compliance with State and Federal Air Quality Standards for many years and there does not appear to be the political consensus to attempt on a regional basis to work

together to come up with a plan which will reduce and/or eliminate the Air Pollution which is prevalent in the San Joaquin Valley. It would seem that the Air Resources Board should take a more active role in enforcing the Air Quality Standards. An example might be in order, a recent Notice of Preparation was prepared for a 540 acre industrial and commercial park in the Manteca-Lathrop area. The Initial Study under Cumulative Impacts, does not even have a place to check off Air Quality and under that same section where it asks if there were any other Cumulative Impacts, the County answers, No.

I would hope that some agency would take the responsibility of letting the County know, that when you put in over 500 acre Industrial Park that it very well might have Cumulative Impacts on Air Quality, especaillly when you realize that the County is already a nonattainment County.

What I am afraid of, is that the enforcement of Air Quality Standards for automobiles is being left to citizen's groups rather than Government.

I for one, don't want to see San Joaquin County become another Los Angeles or Orange County however, unless the State Resources Board or the Local Air Pollution Control Board takes a more acitve role, I fear that there will be gas-masks in all of our futures.

I have no problem if you pass this letter along to the Air Resources Board themselves, but I would appreciate an answer to some of my questions.

Your help in this area would be much appreciated. Thank you very much.

Sincerely,

RONALD M. STEIN

RMS:kab

RONALD M. STEIN

Attorney at Law

5345 North El Dorado - Suite 7
Stockton, California 95207
209 / 478-2621

July 19, 1988

Ms. Kerry Sullivan
San Joaquin County Planning Division
1810 East Hazelton Avenue
Stockton, California 95205

Dear Ms. Sullivan:

Attached hereto are copies of letters I sent to Mr. Lakhmir Grewall and Diane Fishburn. I would hope that in preparing the EIR you would look to considering whether there is consistency between the project and the Air Quality Management Plan for San Joaquin County as required by CEQA guidelines 15125(b).

Further I would ask you to determine the effect of Proposition 65 on the project and specifically the concern of allowing Industrial Land to be developed near Agricultural Land.

Sincerely,

RONALD M. STEIN

RMS:kab
Enclosures
cc: J. Gladfelter

RONALD M. STEIN

Attorney at Law

5345 North El Dorado - Suite 7
Stockton, California 95207
209 478-2621

July 11, 1988

Mr. Lakhmir Grewall

c/o S.J.County Air Pollution Control
1601 E. Hazelton Avenue
Stockton, California 95205

Dear Lakhmir Grewall

Thank you very much for speaking with me recently on July 8, 1988. I certainly appreciate your concern and your involvement in protecting the Air Quality of San Joaquin County. It is my understanding of our conversation that you do receive copies of the Environmental Impact Reports and that you do comment on same.

For your information, I am attaching a copy of two letters that I recently sent to Kerry Sullivan regarding Notice of Preparation of EIR No. 88-11. I would ask you to review these two letters as well as to review the Notice of Preparation and the Initial Study which was done for ER-88-11.

As I noted in my letters to the County, one concern that I did have was that under the Cumulative Impact Analysis in the Initial Study, there was no check mark or no place to discuss the Cumulative Impacts on Air Quality. It would be my hope that you would agree with my comment and let San Joaquin County know that because we are a nonattainment County that we must look at the Cumulative Impact on Air Quality by this particular project. If you note on page 10 of the Initial Study under Cumulative Impacts Number 6, Other, the only thing they say there is "Not Known". Clearly, the County should be and must be aware of the Cumulative or Potential Cumulative Impacts of a 528 acre Industrial and Commercial Manufacturing Development on Air Quality.

Further, I believe that you are most qualified to determine whether this project is consistent or whether there are any

APPENDIX B

Intersection Level of Service Concept[2]

Signalized Intersection

Level of Service (LOS) is the primary indicator for traffic operation performance at intersections. The volume-capacity ratio (v/c) is determined by the volume of conflicting traffic movements per hour and the capacity designed to accommodate them. This ratio, in turn, is rated from LOS "A" to "F." The range describes increasing traffic demand, delays, and deterioration of services.

LOS "A" represents free-flow conditions with little or no delay (zero to five seconds) at intersections. On the contrary, LOS "E" characterizes extremely unstable flow conditions with volumes at or near the designed capacity. Vehicles are likely to experience major delays (40 to 60 seconds) crossing an intersection. Minor incidents may lead to forced flow conditions (LOS "F") with operating volume substantially below capacity. This results in long queues backing up from all approaches to intersections.

LOS ratings from signalized and unsignalized intersections are determined based on different criteria and hence are not directly comparable.

Two-Way Stop-Sign Controlled Intersection

Level of service to individual turning movements on all approaches are determined by a number of factors. These includes merging and opposing volumes, arrival frequency on the minor approach, approach speeds, critical gap, sign control, design capacity and intersection geometry.

The resulting LOS reflects delays experienced by that minor street traffic. Thus, while the overall operating condition of the intersection is stable (LOS "C"), certain turning movements to/from the side street could experience delays equivalent to LOS "E" or "F."

Four-Way Stop-Sign Controlled Intersection

Vehicle delay is not related to critical gap since stopping is required on all approaches. Instead, interaction of vehicles is complex and depends on the arrival distribution on different approaches, departure headways, design capacity and intersection geometry.
The resulting LOS reflects similar overall delays described for signalized locations. However, if volumes are substantially "unbalanced" between the intersection legs, vehicles on the highest volume approach would experience disproportionate delays.

LEVEL OF SERVICE DEFINITIONS

LEVEL OF SERVICE	SIGNALIZED INTERSECTIONS	UNSIGNALIZED INTERSECTIONS
"A"	Uncongested operations, all queues clear in a single-signal cycle. (Average stopped delay less than 5 seconds per vehicle.)	Little or no delay.
"B"	Uncongested operations, all queues clear in a single cycle. (Average delay of 5-15 seconds.)	Short traffic delays.
"C"	Light congestion, occasional backups on critical approaches. (Average delay of 15-25 seconds.)	Average traffic delay.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. (Average delay of 25-40 seconds.)	Long traffic delays.
"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). (Average delay of 40-60 seconds.)	Very long traffic delays, failure, extreme congestion.
"F"	Total breakdown, stop-and-go operation. (Average delay in excess of 60 seconds.)	Intersection blocked by external causes.

Freeway Weaving Area Level of Service Criteria

Levels of service in weaving areas are directly related to the average operating speeds of weaving and nonweaving vehicles. A level of service is separately assigned to weaving and nonweaving vehicles to reflect cases in which significant differences in the speed of component flows exist, as well as those in which balanced operation occurs. The criteria are listed in the table below.

Unlike basic freeway sections, in which speed is insensitive to flow rates up to approximately 1,600 pcphpl, speed in weaving areas is sensitive to flow rates throughout the range of stable flow. This is due to the additional turbulence caused by weaving vehicles and their lane-changing maneuvers.

In general, speed of weaving vehicles is expected to be somewhat lower than that of non-weaving vehicles even when balanced or unconstrained operation occurs. This difference tends to get smaller as speeds get lower. This is reflected in the criteria shown below.

For the purpose of consistency, the speed criteria for any given level of serivce are generally several mph lower than similar criteria for a basic freeway section with a 70-mph design speed. It is possible, however, that a given weaving section will operate at a better LOS than a basic freeway with equal flows and the same number of lanes because of the lower speed criteria for weaving sections.

Level of Service Criteria for Weaving Sections

LOS	Minimum Average Weaving Speed (mph)	Minimum Average Nonweaving Speed (mph)
A	55	60
B	50	54
C	45	48
D	40	42
E	30	30

APPENDIX C

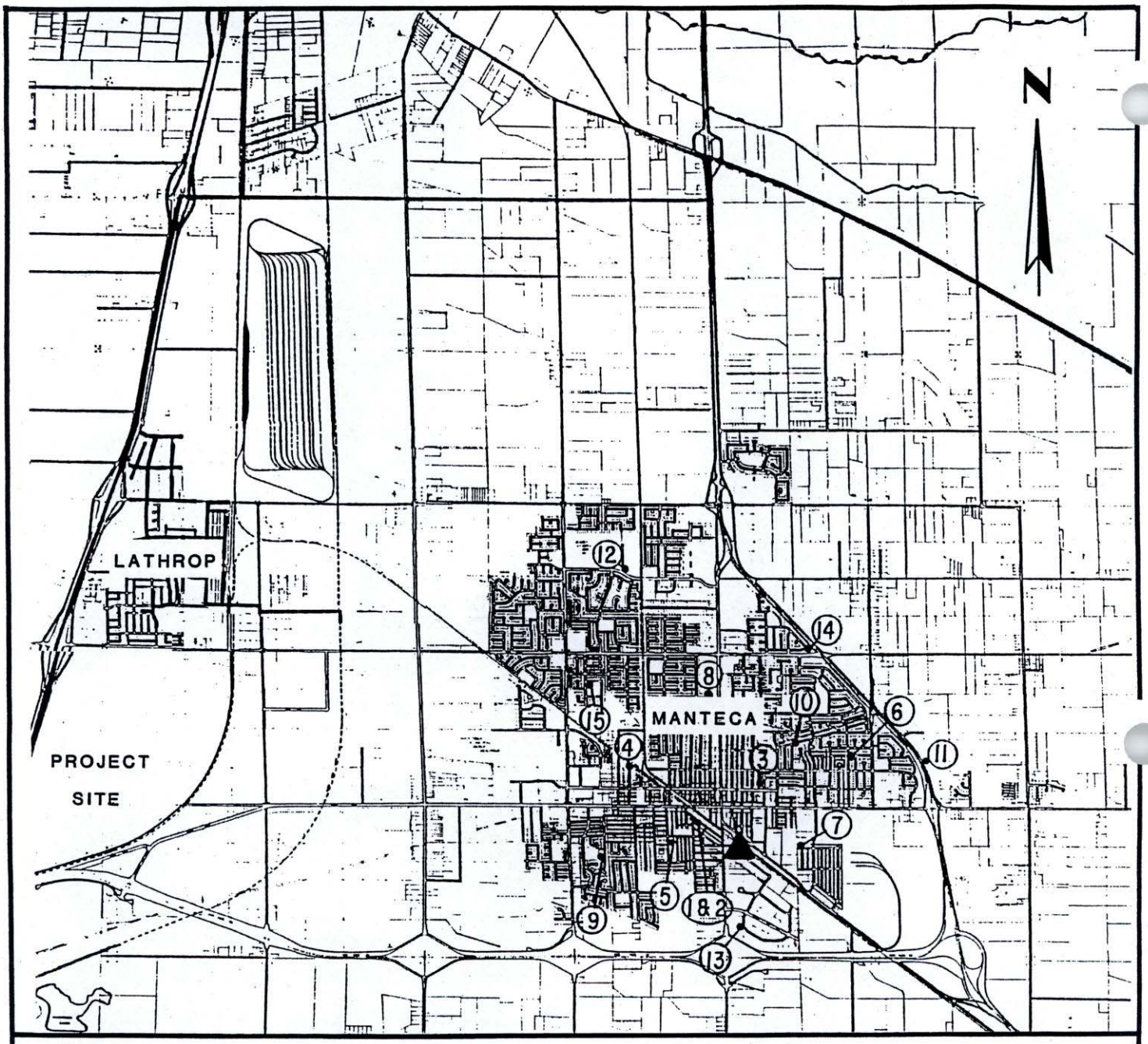

FIGURE C-1 MANTECA PUBLIC WATER SOURCES

MILLS ASSOCIATES
Planning and Environmental Services

TABLE C-1

CITY OF MANTECA
WELL INFORMATION

Well No.	Location	Date Completed	Depth Of Well (Feet)	Installed Horsepower (HP)	Nominal Production (GPM)
1*	Oak and Vine	1917	382	60	800
2	Oak and Vine	1924	325	40	800
3	Pine and Garfield	1949	155	25	380
4	Almond at SPRR	1949	155	25	400
5**	Jessie and Oregon	1952	325	60	1,150
6	Mlynar Avenue	1957	160	30	320
7**	Marin Street	1959	140	40	700
8**	Main and Argonaut	1962	192	40	800
9	El Capitan	1979	300	100	1,400
10	Alameda and Fremont	1965	216	40	800
11	Button Avenue	1971	370	60	950
12***	Northgate and Hoyt	1975	330	150	2,000
13	Vanderbilt Circle	1981	370	100	1,800
14	Louise at Hwy. 99	1983	350	200	2,300
15	Greystone Park	1985	260	150	2,200
TOTAL EXISTING CAPACITY				**16,800 (24.2)MGD**	
TOTAL CAPACITY WITHOUT WELLS 1, 2, & 6				**14,880 (21.4)MGD**	

* Equipped without auxiliary gasoline engine drive.
** Equipped without auxiliary natural gas engine drive.
*** Equipped with natural gas engine drive only.

Source: Kennedy Jenks Engineers.

TABLE C-2

CITY OF MANTECA
HISTORICAL WATER QUALITY RANGES (mg/L)

Year Analyzed	1950[a] (3 Wells)	1965[a] (4 Wells)	1977 (All Wells)	1981 (All Wells)	1985 (All Wells)	1988 (All Wells)	State Standard
Total Dissolved Solids (TDS)	265-315	245-324	190-390	172-330	156-442	195-530	1000
Hardness (as $CaCO_3$)	148-158	126-197	105-238	99-187	69-266	183-371	No Std.
Chloride (Cl)	18-24	9.5-18.5	8.5-35.5	10-44	7-54	20-91	500
Sulfate (SO_4)	7-13	11.6-19.1	17-44	14-44	13.2-44.8	13-52	
Nitrate (NO_3)	5-6[b]	3.2-7.9[b]	14-46	6-35	3.3-46.5	6-39	45
Fluoride (F)	0.1	0.2-0.3	0.24-0.26	0.12-0.19	0.17-0.40	0.1-0.2	1.0
Calcium (Ca)	37-43	33-52.5	27-61	26-47	19.5-68.9	20-19	No Std.
Magnesium (Mg)	10-13	10.5-16	9.2-22.2	8.1-17	5.0-23.0	8-35	No Std.
Sodium (Na)	--	20-27	20.5-43.2	20.6-43.2	20.6-40.7	19.7-34.5	No Std.
Iron (Fe)	0.1	0.1	0.1	0.05-1.2	0.1-0.14	<0.05	.03
Manganese (Mn)	--	--	0.05	0.01-0.01	0.01-0.15	<0.03-0.05	0.05

Source: Kennedy/Jenks Engineers

a From 1968 Water Master Plan Report.

TABLE C-3

CITY OF MANTECA
HISTORICAL POPULATION AND WATER DEMAND

Year	Population	Water Production MG	Average Day Water Production MGD	Average Day Use Per Person GPCD
1960	8,242	742	2.03	246
1961	8,662	810	2.20	256
1962	9,350	839	2.30	246
1963	10,175	725	8.78	196
1964	10,700	802	1.99	205
1965	11,200	804	2.19	196
1967	12,000	905	2.20	207
1968	12,550	830	2.48	181
1969	13,500	979	2.49	193
1970	13,824	1,015	2.68	201
1971	14,600	1,051	2.88	197
1972	15,650	1,209	3.30	211
1973	16,350	1,188	3.25	199
1974	17,050	1,180	3.23	189
1975	17,750	1,271	3.48	196
1976	18,000	1,459	3.99	221
1977	18,400	1,248	3.42	186
1978	20,107	1,505	4.12	205
1979	21,600	1,783	4.88	226
1980	23,150	1,885	5.15	222
1981	25,641	2,113	5.79	226
1982	27,009	2,059	5.64	209
1983	27,891	2,152	5.90	212
1984	29,027	2,662	7.27	251
1986*	35,307	2,921	8.00	227
1987*	37,125	3,055	8.37	225
1988*	38,220	2,894	7.93	207
Average demand durng last six years (1979-1984)				225

Source: Kennedy/Jenks Engineering

* From pump logs

APPENDIX D

CHAPTER 4. MANUFACTURING ZONE (M-2) GENERAL MANUFACTURING ZONE.

SECTION 9-7301. PERMITTED USES. In manufacturing zone M-2, no building, structure or land shall be used and no building or structure shall be erected which is arranged, designed or intended to be used for other than one or more of the following uses:

(a) The following commercial and industrial uses:
  (1) Automobile rental (drive-it-yourself agency); automobiles, used, sales;
  (2) Bag cleaning; blacksmith shop; body and fender works; bottling works; business, wholesale; bus terminal;
  (3) Cabinet shop; cafe; carnival; circus; revival tent or other transient enterprises; carpenter shop; carpet or rug cleaning; clothes cleaning and dyeing;
  (4) Express office;
  (5) Forge plant or foundry;
  (6) Garage, public;
  (7) Hospital, animal;
  (8) Incinerator, nonaccessory;
  (9) Junkyards, if completely enclosed with a solid wall or uniformly painted board fence either (8) feet high;
  (10) Laboratories, research and testing; laundry;
  (11) Machine shops;
  (12) Offices, business and professional;
  (13) Parking lot; public buildings; public transit yards;
  (14) Railroad yard, shop or roundhouse;
  (15) Service station; sewage disposal or treatment plant; sheetmetal products, light; signs, advertising, outdoor; stone monument works;
  (16) Theater, outdoor; truck repairing and overhauling;

(b) Manufacture, fabrication, assembly, canning, processing, treatment or storage of the following:
  (1) Airplanes and parts; alcohol; automobiles and parts; awnings;
  (2) Batteries; bicycles; billboards; boats, small; boilers; brass; brick; business machines and equipment;
  (3) Candles; cans; canvas; cellophane; celluloid; cement; ceramic; cinder; clay; cloth; concrete coke oven and byproducts; copper; cork;
  (4) Dyestuffs;
  (5) Electric and neon signs; emery cloth; excelsior;
  (6) Feather; felt; fibers;

(7) Atmospheric, nonatmospheric, industrial, and medical gases in their liquid or vapor state, including, but not limited to, acetylene, argon, hydrogen, nitrogen, and oxygen; glass; glucose; gypsum;
(8) Hair; hardware; horn;
(9) Ink;
(10) Lampblack; leather; lime; linoleum;
(11) Machinery and machine parts; matches; metal product treatment and processing; mortar; musical instruments;
(12) Novelties;
(13) Oilcloth; oiled rubber goods; oil or grease compounding; optical goods;
(14) Paint; paper; paving material; petroleum refining and storage; photographic equipment; plaster; plaster of paris; plastic; pottery; precious or semiprecious metals or stones; pump; pumice stone;
(15) Crushing of raw materials such as but not limited to rock, gravel or metals, provided that such crushing facilities shall be located not closer than two hundred (200) feet to any property line; rubber;
(16) Shell; shellac; shipbuilding; shoe polish; soap and detergent; soda; stamps, rubber or metal; stone, cast; stove polish; straw;
(17) Tools, motor-powered; toys; trailers; turpentine;
(18) Varnish; venetian blinds and window shades;
(19) Wood; wool;

(c) Food and kindred processing, wholesale:
(1) Confections, honey extraction;
(2) Dairy products;
(3) Eggs;
(4) Fruit, nut, vegetable and mushroom concentration, preservation, and preparation;
(5) Grain-mill products;
(6) Meats, sausages or prepared meat products, fish;
(7) Poultry and small game dressing and packing;
(8) Canning, bottling, processing, treatment or storage of the following: Brewery, cereal or flour mill, feed, malts, oleomargarine, pickles, salt, sauerkraut, starch, sugar, syrup, vinegar, yeast;

(d) Laboratories manufacturing, compounding, processing, packaging or treatment of such products as: cosmetics, drugs, perfumes, pharmaceuticals, toiletries;

(e) Assembling: radio, television and phonograph sets, electric and electronic appliances and devices;

(f) The following uses, provided they are located three hundred (300) feet from any zone boundary and not less than one hundred (100) feet from any other use, except those incidental to and located upon the same piece of property as the use specifically herein permitted:
(1) Garbage, offal or dead animal reduction or dumping;
(2) Manufacture, processing, refining, treatment,

distillation, storage or compounding of the following:
(A) Acid; ammonia; animal byproducts plant; asphalt;
(B) Bleaching powder and chlorine; bones;
(C) Chemicals of a dangerous nature; coal, fuel, or wood; creosote;
(D) Disinfectants or insecticides;
(E) Explosives;
(F) Fat rendering; fertilizer; fireworks; furs;
(G) Gas, natural; gelatine; glue or size;
(H) Hides;
(I) Ore beneficiation;
(J) Roofing or waterproofing materials;
(K) Smelting or refining of materials, steel or iron mill;
(L) Transit mix;
(M) Wool; wine;

(3) Slaughterhouses; stockyards;

(g) The following uses, provided they are conducted within a building or an area which is enclosed by a solid wall or uniformly painted board fence eight (8) feet high:
(1) Building material sales yard;
(2) Contractors' equipment storage yard or plant, or rental of equipment commonly used by contractors;
(3) Lumberyards;
(4) Motion picture studio;
(5) Planing mill;
(6) Storage warehouses, excluding flammable fluids and explosives.

(h) Expansions of existing residences.

(i) Membership Organizations: Business associations, professional membership organizations, labor unions and similar labor organizations, and civic, social and fraternal associations.

Source: Ordinance No. 850, 1148, 1409, 1419, 1547, 3144, 3145, 3182, 3318.

SECTION 9-7302. CONDITIONAL USES. The following uses are permitted subject to an approved Use Permit after a public hearing:

(a) Residential buildings and structures when incidental to a permitted use located on the subject parcel to provide living quarters for the owner and/or operator or employee. In no case shall a new residential subdivision be permitted;
(b) Flea markets;
(c) Heliports and private airstrips;
(d) Power generating facilities;
(e) Transfer company; trucking terminal.

Source: Ordinance No. 850, 1744, 2518, 2975, 3318.

SECTION 9-7303. ACCESSORY USES. The following are accessory uses, provided they are incidental to and located upon the same piece of property as a commercial or an industrial use permitted in the district:

(a) Church;
(b) Hospital;
(c) School;
(d) Accessory uses customarily incidental to permitted and conditional uses.

Source: Ordinance No. 850.

SECTION 9-7304. AREA REGULATIONS. None.

Source: Ordinance No. 850.

SECTION 9-7305. WIDTH REGULATIONS. The minimum width of any lot shall be one hundred (100) feet at a distance thirty (30) feet back from the front lot line.

Source: Ordinance No. 850.

SECTION 9-7306. SIDE YARD REGULATIONS. No side yard shall be required except when the side yard abuts a street, property developed with residential uses, property zoned residentially, or property shown onthe General Plan for residential development, in which case the minimum depth of the side yard shall be twenty (20) feet, or unless otherwise provided in this Title.

Source: Ordinance No. 850, 2831, 2867, 3317.

SECTION 9-7307. FRONT YARD REGULATIONS. The minimum depth of the front yard shall be thirty (30) feet.

Source: Ordinance No. 850.

SECTION 9-7308. REAR YARD REGULATIONS. No rear yard shall be required, except when the rear yard abuts a street, property developed with residential uses, property zoned residentially, or property shown on the General Plan for residential development, in which case the minimum depth of the rear yard shall be twenty (20) feet.

Source: Ordinance No. 850, 2831, 2867, 3317.

SECTION 9-7309. COVERAGE REGULATIONS. No building or group of buildings or structures shall occupy more than sixty (60) percent of the lot area.

Source: Ordinance No. 850, 2831.

SECTION 9-7310. HEIGHT REGULATIONS. None.

Source: Ordinance No. 850.

SECTION 9-7311. PARKING AND LOADING REGULATIONS. Same as required by Chapter 15 of Division 3 of this Title.

Source: Ordinance No. 850, 975.

SECTION 9-7312. DEVELOPMENT AND PERFORMANCE REQUIREMENTS. All uses in the M-2 districts shall be planned, developed, conducted and operated so that smoke, fumes, dust, odors, liquids, and other waste of any kind are confined or purified to control pollution of air, soil or water to meet the performance standards or other requirements of the Board of Adjustment.

Source: Ordinance No. 850, 1399.

APPENDIX E

CHAPTER 2. MANUFACTURING ZONE (R-M) RESTRICTED MANUFACTURING ZONE.

SECTION 9-7100. INTENT. The restricted manufacturing zone is intended to provide for the establishment of industrial districts which, by the nature of the development and activity permitted within them, can be located near planned or existing residential districts with a minimum of environmental conflict. Toward this end, the requirements of the zone include development plan approval as well as performance standards, and land use in the zone is limited to light manufacturing, service, and related industries, the external effects of which can be controlled.

Source: Ordinance No. 1122.

SECTION 9-7101. PERMITTED USES. In the restricted manufacturing zone, R-M, no building, structure or land shall be used and no building or structure shall be erected which is arranged, designed, or intended to be used for other than one or more of the following uses:

(a) Manufacturing:
  (1) Apparel and other finished products made from fabrics and similar materials;
  (2) Bakery products, candy, dairy products, tobacco products, bottled and canned soft drinks and carbonated waters;
  (3) Converted paper and paperboard products, printing, publishing, and allied industries; veneer and plywood containers, except boxes and crates;
  (4) Drugs;
  (5) Electric lighting and wiring equipment, electronic components and accessories, x-ray apparatus and tubes;
  (6) Furniture and fixtures, household appliances;
  (7) Glass products, professional, scientific, and controlling instruments; photographic and optical goods, watches and clocks;
  (8) Jewelry, silverware, and plated wares, musical instruments and parts, toys, amusement, sporting and athletic goods; pens, pencils and other office and notions, brooms and brushes, matches, candles, lamp shades, umbrellas, canes and similar articles;
  (9) Metal cans, cutlery, handtools, and general hardware; screw machine products, and bolts, nuts, screws, rivets and washers, metal stampings, products made from prepared wire;
  (10) Office, computing, and accounting machines;

(b) The following business and professional services:
    (1) Accounting, auditing, bookkeeping, advertising;
    (2) Correspondence and vocational schools;
    (3) Duplicating, blueprinting, photocopying, stenographic services;
    (4) Educational and scientific research agencies;
    (5) Research, development, and testing laboratories;
    (6) Engineering and architectural services;
    (7) Medical and dental laboratories;
(c) Establishments primarily engaged in the wholesale distribution of:
    (1) Drugs and druggists' sundries;
    (2) Dry goods and apparel;
    (3) Electrical and electronic equipment and supplies;
    (4) Furniture and home furnishings;
    (5) Hardware and household appliances;
    (6) Paper and paper products;
    (7) Professional equipment and supplies;
    (8) Service establishment equipment and supplies;
    (9) Groceries and related products, except fresh poultry, meats, fish, fruits and vegetables;
(d) Such other ues which are determined by the Director to be compatible with and of the same general character and intent as the uses in the R-M zone.

Source: Ordinance No. 1122, 2259.

SECTION 9-7102. CONDITIONAL USES. The following conditional uses shall be permitted subject to securing a Use Permit in each case:

(a) Retail sales by establishments primarily engaged in wholesaling;
(b) Gas and/or oil wells.

Source: Ordinance No. 1122, 3125.

SECTION 9-7103. ACCESSORY USES.

(a) Accessory uses clearly appurtenant to the main use of the lot and customarily associated with the main use;
(b) Eating establishments primarily serving employees of establishments in the district;
(c) Wholesale and retail sale of goods manufactured on the premises.

Source: Ordinance No. 1122.

SECTION 9-7104. DEVELOPMENT PLAN REQUIRED. Unless other specified by this Title, a Development Plan showing locations and plans of buildings and other improvements, arrangement of parking and loading spaces, access to and from public rights-of-way, landscaping design and other information as required by the Director shall be submitted and approved before any building permit may be issued for construction or improvement within the district.

Source: Ordinance No. 1122, 1399, 3323.

SECTION 9-7105. AREA REGULATIONS. Each lot in the district shall have an area of not less than one-half (1/2) acre and a frontage on a public street of not less than one hundred twenty-five (125) feet.

Source: Ordinance No. 1122.

SECTION 9-7106. WIDTH REGULATIONS. None.

Source: Ordinance No. 1122.

SECTION 9-7107. SIDE YARD REGULATIONS. No side yard shall be required, except when the side yard abuts a street, property developed with residential uses, property zoned residentially, or property shown on the General Plan for residential development, in which case the minimum depth of the side yard shall be twenty (20) feet, or unless otherwise provided in this Title.

Source: Ordinance No. 1122, 3317.

SECTION 9-7108. FRONT YARD REGULATIONS. Each lot shall have a front yard of at least thirty (30) feet in depth.

Source: Ordinance No. 1122.

SECTION 9-7109. REAR YARD REGULATIONS. No rear yard shall be required, except when the rear yard abuts a street, property developed with residential uses, property zoned residentially, or property shown on the General Plan for residential development, in which case the minimum depth of the rear yard shall be twenty (2) feet.

Source: Ordinance No. 1122, 3317.

SECTION 9-7110. COVERAGE REGULATIONS. None.

Source: Ordinance No. 1122.

SECTION 9-7111. HEIGHT REGULATIONS. No building or structure shall be erected to a height greater than six (6) stories or seventy-five (75) feet.

Source: Ordinance No. 1122, 3111.

SECTION 9-7112. SIGN REGULATIONS.

(a) Signs are to be attached parallel to the wall of the building the use of which is identified or advertised, and shall not extend beyond the building wall.
(b) The area of a sign shall not exceed ten (10) percent of the area of the wall against which it is located.
(c) Lighting of signs shall be limited to internal illumination, nonflashing and nonanimated. No signs shall be illuminated on any lot adjoining or directly across the street from residential property.
(d) Small directional signs and other signs necessary to the functioning of the plant shall be permitted.

Source: Ordinance No. 1122.

SECTION 9-7113. PARKING AND LOADING REGULATIONS.

(a) Off-street parking and loading areas shall be provided as required in Chapter 15 of Division 3 of this Title.
(b) All open areas used for storage, or for parking or loading and unloading of vehicles over one and one-half (1 1/2) tons rated capacity, shall be enclosed by a solid wall or fence with solid entrance and exit gates. Such wall or fence shall be six (6) feet in height, and in no case shall materials be stacked or stored so as to exceed the height of the fence.

Source: Ordinance No. 1122, 1361.

SECTION 9-7114. OUTSIDE STORAGE, DISPLAY OR MANUFACTURING. All industrial activities permitted in this district shall be conducted within closed buildings except for the storage, movement and parking of vehicles, loading and unloading, and similar activities.

Source: Ordinance No. 1122.

SECTION 9-7115. DEVELOPMENT REQUIREMENTS. All buildings in this district shall be constructed and maintained in a manner in keeping with the intent of this chapter, and all open portions of any lot in the district shall have adequate grading and drainage, and shall be continuously maintained in a dust-free condition by suitable landscaping with trees, shrubs, or planted ground cover or by paving with asphaltic, concrete, rock, oil surfacing or other resilient materials.

Source: Ordinance No. 1122, 3323.

SECTION 9-7116. PERFORMANCE REQUIREMENTS. All industrial activities permitted in this district shall be subject to the following limitations of their external effects:

(a) Noise or vibration created by any industrial machinery or process shall not be objectionable at the lot boundary of a lot within the R-M zone and shall not be discernable at the district boundary of other zoning districts abutting an R-M zone other than an M-1 or M-2 zone;
(b) Odors, glare or heat created by any use shall not be objectionable at the lot boundary of a lot within the R-M zone and shall not be discernable at the district boundary of other zoning districts abutting an R-M zone other than an M-1 or M-2 zone;
(c) Discharge into the air of dust, dirt or particulate matter, noxious gas, or smoke created by any industrial operation or emanating from any products stores, shall not be permitted;
(d) Only gas or electric fuels shall be used in any industrial operation except that oil-fired equipment may be used for emergency standby purposes upon interruption of gas or electric service;
(e) Industrial activities shall be of such a nature as not to cause damage to health or safety, or to animals, vegetables, or other forms of property.

Source: Ordinance No. 1122, 2259.

APPENDIX F

APPENDIX F

BASIC PROPERTIES OF ENVIRONMENTAL NOISE

The human ear is subject to a wide range of sound intensities, and people hear changes in sound in proportion to those intensities. The decibel (dB) scale is a logarithmic scale used to compress this range. The threshold of human hearing corresponds roughly to O BA. Table 28 shows the sound level of typical sources encountered in the environment. The "A" weighting scale, that which most closely resembles human hearing, is used in this assessment and is noted by the symbol (dBA).

In this report, the time-varying character of environmental noise is described as a statistical average known as Community Noise Equivalency Level (CNEL). The term Ldn (day-night average) is essentially the same as CNEL. Both are statistical weightings of daytime, evening and nighttime noises used as the basis for noise impact evaluation. It is also the standard used in the San Joaquin County General Plan Noise Element for land use planning criteria.

Parameters used when estimating traffic noise relate to the traffic, the roadway, and the receiver. Traffic parameters affecting noise are the number and type of vehicles passing a point during a particular time period and the average speed of the vehicles.

Highway noise increases as the number and average speed of automobiles increases. For example, if the automobile traffic volume doubles, the noise level from automobiles increases by approximately 3 dBA. However, if the speed decreases to half, the noise level from automobiles decreases by approximately 6 dBA. The engine-exhaust system and tire roadway interaction contribute prominently to overall automobile noise.

Truck noise behaves differently. Noise from tires, exhaust, intake, engine, and gears all contribute to the total noise environment. An average truck generates A levels approximately 15 dBA higher than the average car. The condition of the truck's muffler is particularly important. Another significant difference between the two vehicle sources is that the main noise from autos is tires, whereas from heavy trucks, it is the exhaust stack.

Receiver parameters are those which affect the relationship of the receiver's position to the vehicle-roadway noise source. The distance between the observer and the highway is the most significant factor. The greater the distance, the lower the noise level. Doubling the distance from the highway (for example, going from 100 to 200 feet) reduces the average traffic noise at the receiver's position by approximately 4 to 6 dBA.

TABLE F-1

APPROXIMATE SOUND LEVELS OF COMMON NOISES