Public Review Draft

HUGHSON 2005 GENERAL PLAN EIR

City of Hughson | June 30, 2005

DESIGN, COMMUNITY & ENVIRONMENT

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1 INTRODUCTION

This Draft Environmental Impact Report (EIR) has been prepared to provide an assessment of the potential environmental consequences of adoption and implementation of the proposed Hughson 2005 General Plan. This evaluation is designed to inform City of Hughson decision-makers, other responsible agencies and the public-at-large of the nature of the General Plan and its effect on the environment. The 2005 General Plan analyzed in this EIR is comprised of Public Review Draft #1 Hughson 2005 General Plan dated May 27, 2005, as well as the 2005 General Plan Errata, dated June 30, 2005. This EIR has been prepared in accordance with and in fulfillment of California Environmental Quality Act (CEQA) requirements. The City of Hughson is the Lead Agency for the project.

A. Proposed Action

The proposed project, the 2005 General Plan, is a complete revision of the existing General Plan, for which no comprehensive update has been completed since 1984. The General Plan is the principal policy document for guiding future conservation and development of the area. Although the 2005 General Plan addresses a long-term planning horizon through 2025, it also provides overall direction to the day-to-day actions of the City, its elected officials and staff. The project is described in greater detail in Chapter 3.

The 2005 General Plan includes goals, policies and actions designed to implement the community's vision for Hughson. The policies and actions are intended for use by the City to guide everyday decision-making and to ensure progress toward the attainment of the goals outlined in the Plan.

B. EIR Scope, Issues and Concerns

This document is a Program EIR that analyzes the proposed adoption and implementation of the 2005 General Plan. As a Program EIR, it is not project-specific and does not evaluate the impacts of specific development that

may be proposed under the 2005 General Plan. Such projects will require separate environmental review to secure the necessary discretionary development permits. Therefore, while subsequent environmental review may be tiered off this EIR, it is not intended to address impacts of individual projects.

The scope of this Draft EIR was established by the City of Hughson through the General Plan process. Issues addressed in this EIR are the following:

1. Aesthetics
2. Agricultural Resources
3. Air Quality
4. Biological Resources
5. Cultural Resources
6. Geology and Soils
7. Hazards and Hazardous Materials
8. Hydrology and Water Quality
9. Land Use
10. Noise
11. Population and Housing
12. Public Services
13. Transportation
14. Utilities

C. Report Organization

This Draft EIR is organized into the following chapters:

- **Chapter 1: Introduction,** provides a preface and overview describing both the intended use of the document, and the review and certification process of both the 2005 General Plan and the EIR.
- **Chapter 2: Report Summary,** summarizes environmental consequences that would result from the proposed project, describes recommended mitigation measures and indicates the level of significance of environmental impacts before and after mitigation. A Summary Table is also included for clarity.

- **Chapter 3: Project Description,** describes the 2005 General Plan in detail, including a summary of the chapters of the 2005 General Plan and a listing of proposed land use designation changes.
- **Chapter 4: Environmental Evaluation,** provides an analysis of the potential environmental impacts of the proposed project and presents recommended mitigation measures, if required, to reduce their significance.
- **Chapter 5: Alternatives to the Proposed Project,** considers three alternatives to the proposed project, including the CEQA-required "No Project Alternative."
- **Chapter 6: CEQA-Required Assessment Conclusions,** discusses growth inducement, unavoidable significant effects and significant irreversible changes as a result of the project.
- **Chapter 7: Report Preparers and References** identifies the data sources and preparers of the Draft EIR.

D. Environmental Review Process

The Draft EIR will be available for review by the public and interested parties, agencies and organizations for a period of at least 45 days, as required by State law. A public hearing on the Draft EIR will be held in front of the Planning Commission and City Council during the review period, during which oral comments are welcome.

Written comments on the Draft EIR are also encouraged for incorporation into the Final Environmental Impact Report (FEIR) and should be submitted to:

Mr. Barry Siebe
Director of Planning and Building
City of Hughson Planning and Building Department
7018 Pine Street
PO Box 9
Hughson, CA 95326

Following the close of the public comment period, a FEIR will be prepared to respond to all substantive comments regarding the Draft EIR. The FEIR will be made available for public review prior to consideration of its certification by the City of Hughson City Council. Once the City Council certifies the FEIR, it will also consider adoption of the 2005 General Plan itself, which may be approved as drafted or modified, or denied.

2 REPORT SUMMARY

This summary presents an overview of the analysis contained in Chapter 4: Environmental Evaluation. CEQA requires that this chapter summarize the following: 1) areas of controversy; 2) significant impacts; 3) unavoidable significant impacts; 4) implementation of mitigation measures; and 5) alternatives to the project.

A. Project Under Review

This Draft EIR provides an assessment of the potential environmental consequences of adoption of the Hughson General Plan. The General Plan is intended to serve as the principal policy document for guiding future development and conservation in and around the City. The proposed General Plan includes goals, policies and actions which have been designed to implement the City's and community's vision for Hughson. The policies and actions would be used by the City to guide day-to-day decision-making so there is continuing progress toward the attainment of the Plan's goals. The proposed General Plan proposes land use designations that would implement the overall goals and vision of the General Plan. The General Plan is further detailed in Chapter 3, Project Description.

B. Areas of Controversy

The proposed General Plan is largely self-mitigating with regard to environmental impacts. However, there has been controversy in the past regarding several issues related to the General Plan, including:

- The rate, location and type of growth.
- Traffic impacts of proposed development.
- The loss of agricultural lands.
- The availability of infrastructure to support new development.

- The need for more employment and shopping opportunities in the community.

All of these issues were addressed in the 2005 General Plan process. To the extent that these issues have environmental impacts, they are also addressed in this EIR.

C. Significant Impacts

Under CEQA, a significant impact on the environment is defined as 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 objects of historic and aesthetic significance.

Implementation of the proposed General Plan has the potential to generate environmental impacts in a number of areas. However, the Plan has been developed to be largely self-mitigating. As shown in Table 2-1, the only impacts that would occur under the 2005 General Plan are those significant, unavoidable impacts that cannot be mitigated. These impacts are discussed below in Section E: Unavoidable Significant Impacts. All of the other potential impacts are avoided by the policies included in the 2005 General Plan and existing federal, State and local regulations

D. Mitigation Measures

The 2005 General Plan is generally self-mitigating. As a result, the only significant impacts that have been identified in this Draft EIR are those which are significant and unavoidable, and for which no mitigation is available to reduce the level of the impact to a less-than-significant level. As a result, there are no mitigation measures identified in this Draft EIR.

E. Unavoidable Significant Impacts

The proposed General Plan would have seven significant unavoidable impacts, as follows. These impacts are discussed further in Sections 4.1 and 4.2 and 4.3.

1. Aesthetics

There would be one significant unavoidable aesthetics impact, which would occur under cumulative conditions. Together with development occurring elsewhere in its Sphere of Influence, new development would result in a change in visual character from an agricultural appearance to a more urban appearance.

2. Agricultural Resources

Four significant unavoidable impacts to agricultural resources would occur under the 2005 General Plan. Development under the General Plan would result in conversion of Prime and Unique Farmland, and Farmland of Statewide importance to urban uses. This affected agricultural land would include some areas that are currently zoned by Stanislaus County for agricultural uses and/or are under active Williamson Act contract, which would constitute a separate impact. The 2005 General Plan could also result in the development of incompatible urban uses adjacent to agricultural uses, which could result in the conversion of these lands from farmland. Finally, there would be a cumulative significant unavoidable impact associated with the 2005 General Plan, which would contribute to the on-going loss of agricultural lands in the region as a whole. The permanent loss of farmland is considered, in each of these cases, to be a significant and unavoidable impact.

3. Air Quality

There would be two significant and unavoidable air quality impacts as a result of the project. Firstly, the 2005 General Plan would be inconsistent with applicable air quality plans of the San Joaquin Valley Air Pollution Control District, since it allows for an amount of population growth in excess of that

accounted for in the District's clean air planning efforts. The 2005 General Plan would also contribute cumulatively to on-going air quality issues in the San Joaquin Valley, to an extent that cannot be mitigated by policies and programs to reduce pollutant emissions.

F. Alternatives to the Project

This Draft EIR analyzes alternatives to the proposed 2005 General Plan. The following four alternatives to the proposed project, the first two of which are versions of the CEQA-required No Project Alternative, are considered and described in detail in Chapter 5:

- Existing General Plan Alternative
- Existing Conditions Alternative
- Concentrated Growth Alternative
- Reduced Density Alternative

As shown in the alternatives analysis in Chapter 5, the Existing General Plan Alternative has the least environmental impact and is therefore the environmentally superior alternative. CEQA guidelines require that if the alternative with the least environmental impact is a No Project Alternative, the EIR must also designate the next most environmentally superior alternative. After the No Project Alternative, the Concentrated Growth Alternative is the next most environmentally superior alternative.

G. Summary Table

Table 2-1 presents a summary of impacts and mitigation measures identified in this report. It is organized to correspond with the environmental issues discussed in Chapter 4.

The table is arranged in four columns: 1) environmental impacts; 2) significance prior to mitigation; 3) mitigation measures; and 4) significance after

mitigation. For a complete description of potential impacts and suggested mitigation measures, please refer to the specific discussions in Chapter 4. Additionally, this summary does not detail the timing of mitigation measures. Timing will be further detailed in the mitigation monitoring program.

TABLE 2-1 **SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
AESTHETICS			
There are no significant impacts to aesthetics, so no mitigation measures are necessary.			
Impact A-1: While the 2005 General Plan would not result in a project-level impact, cumulative development in Hughson and the SOI would contribute to the cumulative change in the visual character of the County, from an agricultural character or a more urban visual appearance.	S	No mitigation is available for this impact, since the permanent visual change from rural, agricultural lands to urban use is considered significant and unavoidable.	SU
AGRICULTURAL RESOURCES			
Impact AG-1: While mitigated to the extent feasible by policies of the 2005 General Plan, development permitted under the implementation of the 2005 General Plan would result in a significant and unavoidable impact related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as these lands are developed for urban uses.	S	No mitigation is available for this impact, since the permanent loss of farmland is considered significant and unavoidable.	SU
Impact AG-2: While mitigated to the extent feasible by policies of the 2005 General Plan, implementation of the General Plan would result in a significant and unavoidable impact to agricultural resources since it would allow urban uses on areas in the SOI that are currently zoned by the County for agricultural use and/or under active Williamson Act contracts.	S	No mitigation is available for this impact, since the permanent loss of farmland is considered significant and unavoidable.	SU

LTS = Less Than Significant; S = Significant; SU = Significant Unavoidable Impact

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact AG-3: While mitigated to the extent feasible by policies of the 2005 General Plan, implementation of the General Plan would result in incompatible urban uses being developed adjacent to agricultural uses, which could result in the conversion of farmland to non-agricultural use and a significant and unavoidable impact to these resources.	S	No mitigation is available for this impact, since the permanent loss of farmland is considered significant and unavoidable.	SU
Impact AG-4: Development in Hughson and its SOI would contribute cumulatively to the on-going loss of agricultural lands in the region..	S	No mitigation is available for this impact, since the permanent loss of farmland is considered significant and unavoidable.	SU
AIR QUALITY			
Impact AIR-1: While mitigated to the extent feasible by policies of the 2005 General Plan, the 2005 General Plan would not be consistent with applicable air quality plans of the SJVAPCD, since population growth that could occur under the 2005 General Plan would exceed that projected by StanCOG and used in projections for air quality planning. The projected growth would lead to an increase in the region's VMT, beyond that anticipated in the SJVAPCD's clean air planning efforts. The increase in VMT that would occur under the General Plan, relative to that projected by StanCOG, is less than 1 percent.	S	No mitigation is available for this impact, since the growth induced by the 2005 General Plan would increase vehicle miles traveled beyond that accounted for in the clean air planning efforts of the SJVAPCD	SU
Impact AIR-2: Development in Hughson and its SOI would contribute cumulatively to on-going air quality issues in the San Joaquin Valley Air Basin.	S	No feasible measures are available that would completely mitigate this cumulative impact.	SU
BIOLOGICAL RESOURCES			

LTS = Less Than Significant; S = Significant; SU = Significant Unavoidable Impact

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
No impacts would occur to biological resources, so no mitigation measures are necessary.			
CULTURAL RESOURCES			
No cultural resource impacts would occur, so no mitigation measures are necessary.			
GEOLOGY AND SOILS			
No significant impacts to geology and soils would occur, so no mitigation measures are necessary.			
HAZARDS AND HAZARDOUS MATERIALS			
No impacts would occur in regards to hazards or hazardous materials, so no mitigation measures are necessary.			
HYDROLOGY AND WATER QUALITY			
There are no significant impacts to hydrology and water quality, so no mitigation measures are necessary.			
LAND USE			
There are no significant land use impacts, so no mitigation measures are necessary.			
NOISE			
There are no significant nosie impacts, so no mitigation measures are necessary.			
POPULATION AND HOUSING			
There are no significant impacts to population, housing and employment; therefore, no mitigation measures are necessary.			

LTS = Less Than Significant; S = Significant; SU = Significant Unavoidable Impact

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
PUBLIC SERVICES			
There are no significant impacts to public services, including police, fire, schools, libraries and parks; therefore, no mitigation measures are necessary.			
TRANSPORTATION			
As there are no significant impacts to transportation, no mitigation measures are necessary.			
UTILITIES			
There are no significant impacts to utilities (water service, wastewater, stormwater, solid waste, energy use and conservation), therefore no mitigation measures are necessary.			

LTS = Less Than Significant; S = Significant; SU = Significant Unavoidable Impact

3 PROJECT DESCRIPTION

This Environmental Impact Report (EIR) provides an assessment of the Draft Hughson 2005 General Plan, published on May 27, 2005, and the subsequent 2005 General Plan Errata, published on June 30, 2005. Both of these documents together form the official Draft 2005 General Plan, referred to in this EIR. This General Plan document supersedes the previous General Plan, adopted in 1984, and coordinates with the Housing Element update adopted in 2004. The proposed 2005 General Plan would provide the control and regulation necessary to ensure that Hughson's high quality of life, small-town atmosphere and agricultural traditions continue, especially in the face of outside growth pressures. In addition to several land use designation changes, the goals, policies and actions incorporated into the 2005 General Plan were revised and reorganized to guide development and conservation in Hughson through 2025. In compliance with the California Environmental Quality Act (CEQA), this EIR describes the potential environmental impacts associated with the implementation of the 2005 General Plan. The City of Hughson Planning Department is the Lead Agency for the environmental review of the proposed project.

A. Location and Setting

The City of Hughson, comprised of 1.4 square miles, is located in Stanislaus County, approximately 10 miles southeast of Modesto, east of Ceres and north of Turlock. As shown in Figure 3-1, Hughson lies about 90 miles south of Sacramento and 100 miles southeast of San Francisco. There are no major highways through or adjacent to Hughson. State Highway 99 (SR-99) is the closest freeway, running north to south through Modesto with a linkage via Interstate-205 (I-205) to I-5, California's major north-south interstate corridor, and I-580, the primary linkage to the Bay Area.

The Township of Hughson was founded in 1907 and incorporated in 1972. The community developed as a result of agriculture and the arrival of the railroad, which helped to move agricultural products to the market. Today,

FIGURE 3-1

REGIONAL LOCATION

CITY OF HUGHSON
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agriculture and the railroad continue to play an important role in the community, providing jobs and influencing the physical design of the City. Recently, new development and employment opportunities, and regional growth pressures are affecting the character of Hughson.

According to the US Census, there were 3,980 people living in Hughson in 2000, which represented an 22 percent increase from 1990. Since 2000, the State Department of Finance estimates that Hughson is experiencing a much faster rate of growth, with 5,942 residents estimated for January 1, 2005, which reflects a growth rate of 50 percent over the past five years. This rapid increase in development is primarily a reflection of the regional growth pressures that are affecting the Central Valley as people living in more expensive regions look for affordable housing in the Valley.

Based on the Department of Finance estimates for January 1, 2005, there are an estimated 1,836 housing units in Hughson. In addition, based on a survey of the City, there are approximately 1,032,000 square feet of non-residential uses in the City. Table 3-1 summarizes the existing housing units and non-residential uses in Hughson and its proposed Sphere of Influence (SOI).

Along with the marked increase in new housing construction, the cost of housing has also increased, with a significant spike beginning in 2000. As discussed in the 2004 Hughson Housing Element, median housing prices have increased from $89,000 in 1990 to $168,750 in 2002. Between 1990 and 2000, housing prices rose an average of approximately $3,000 per year, but by 2002 values were increasing by up to about $25,000 per year. This trend has continued and between 2002 and 2004, average housing prices rose by upwards of $35,000 per year.

As wages have not been able to increase at the same rate, the ability of Hughson residents to afford housing in the city is a growing concern, with over 30 percent of Hughson households overpaying for housing in 2000. In general,

TABLE 3-1 **EXISTING DEVELOPMENT**

Land Use	City Limits		Sphere of Influence	
	DU	Sq Ft	DU	Sq Ft
Single Family/ Mobilehome	1,635	---	46	---
Multi-Family	201	---	---	---
Downtown Commercial	---	232,000	---	---
Neighborhood Commercial	---	---	---	---
General Commercial	---	5,000	---	---
Service Commercial	---	---	---	35,000
Industrial	---	435,000	---	---
Public/Quasi Public	---	360,000	---	---
Agriculture	---	---	48	207,000
Total	**1,836**	**1,032,000**	**94**	**242,000**

DU = dwelling units, Sq Ft = square feet
Assumptions:

- Residential units in the city limits were determined from the January 1, 2005 Department of Finance estimates.
- Residential unit calculations for the SOI were based on the 2000 Census and from a review of a 2004 aerial photo.
- Non-residential square footage was calculated from analysis of a 2004 aerial photo.

there is also a lack of higher-paying employment opportunities for local residents, and over 85 percent currently work outside of the city. Many of these residents work within other areas of Stanislaus County, including Modesto. However, according to the 2000 Census, about 13 percent of Hughson residents traveled to employment centers outside the County. Available data indicates that commuters go to employment centers such as Tracy, Stockton, and to a lesser extent, Sacramento and the Bay Area.

B. Project Area

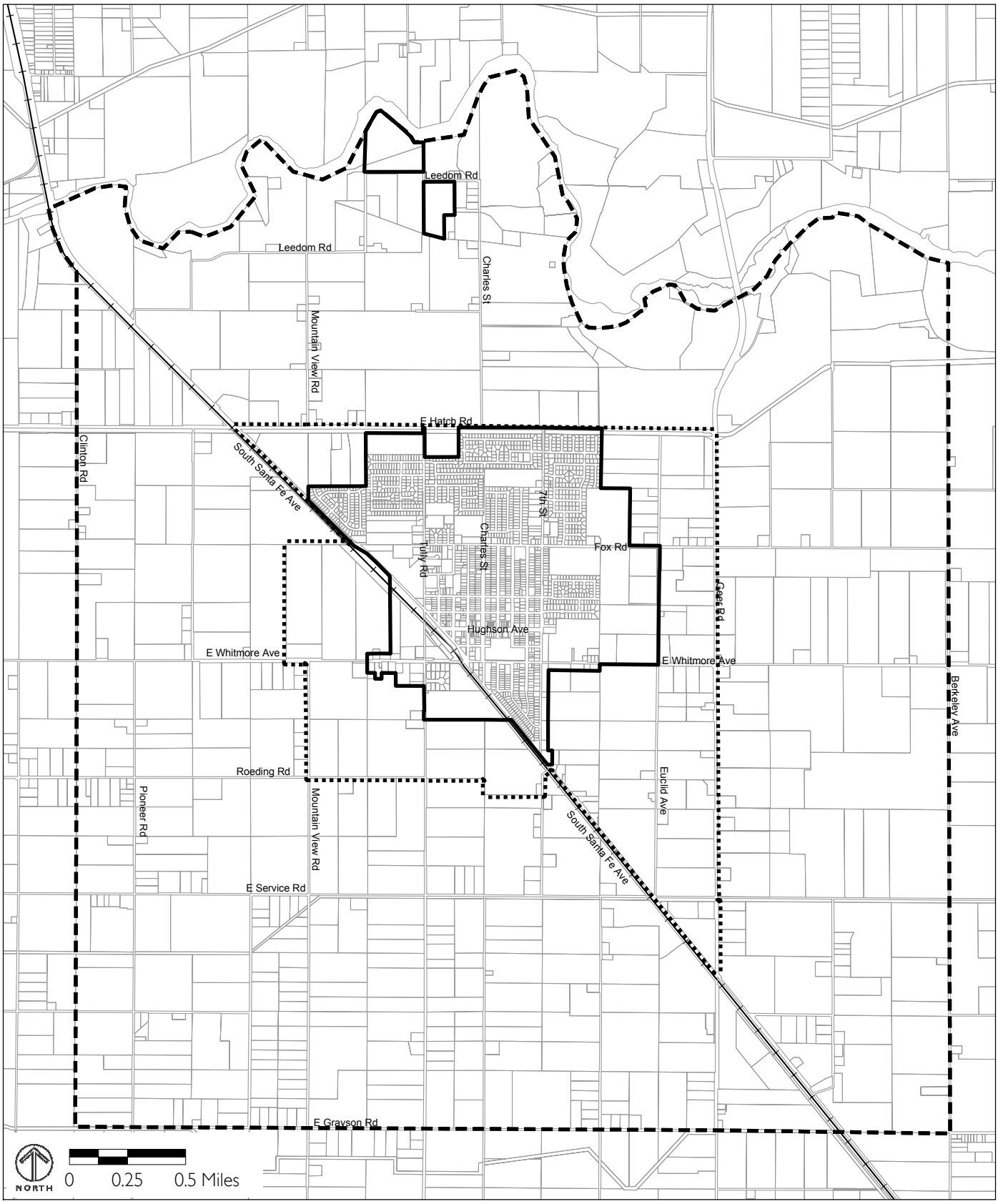
The 2005 General Plan identifies three distinct planning units: the city limits, SOI boundaries and Planning Area. These are shown in Figure 3-2, and each is described in detail below. As the 2005 General Plan only proposes change within the city limits and SOI, not the Planning Area, this EIR focuses on the analysis of potential impacts resulting from adoption and implementation of the 2005 General Plan on land within the city limits and SOI.

1. Hughson City Limits

Property within the existing Hughson city limits has already been annexed into the City and comprises about 1.4 square miles. Hughson has primary authority over land use and other governmental actions within this area.

2. Hughson Sphere of Influence

The SOI includes land over which the City currently holds no jurisdiction, but which it may annex and urbanize in the future. While the City does not have jurisdiction over land within the SOI, designating a SOI sets precedence



Data Source: Stanislaus County GIS, City of Hughson

Planning Area

Sphere Of Influence

City Limits

FIGURE 3-2

CITY LIMIT, SPHERE OF INFLUENCE AND PLANNING AREA

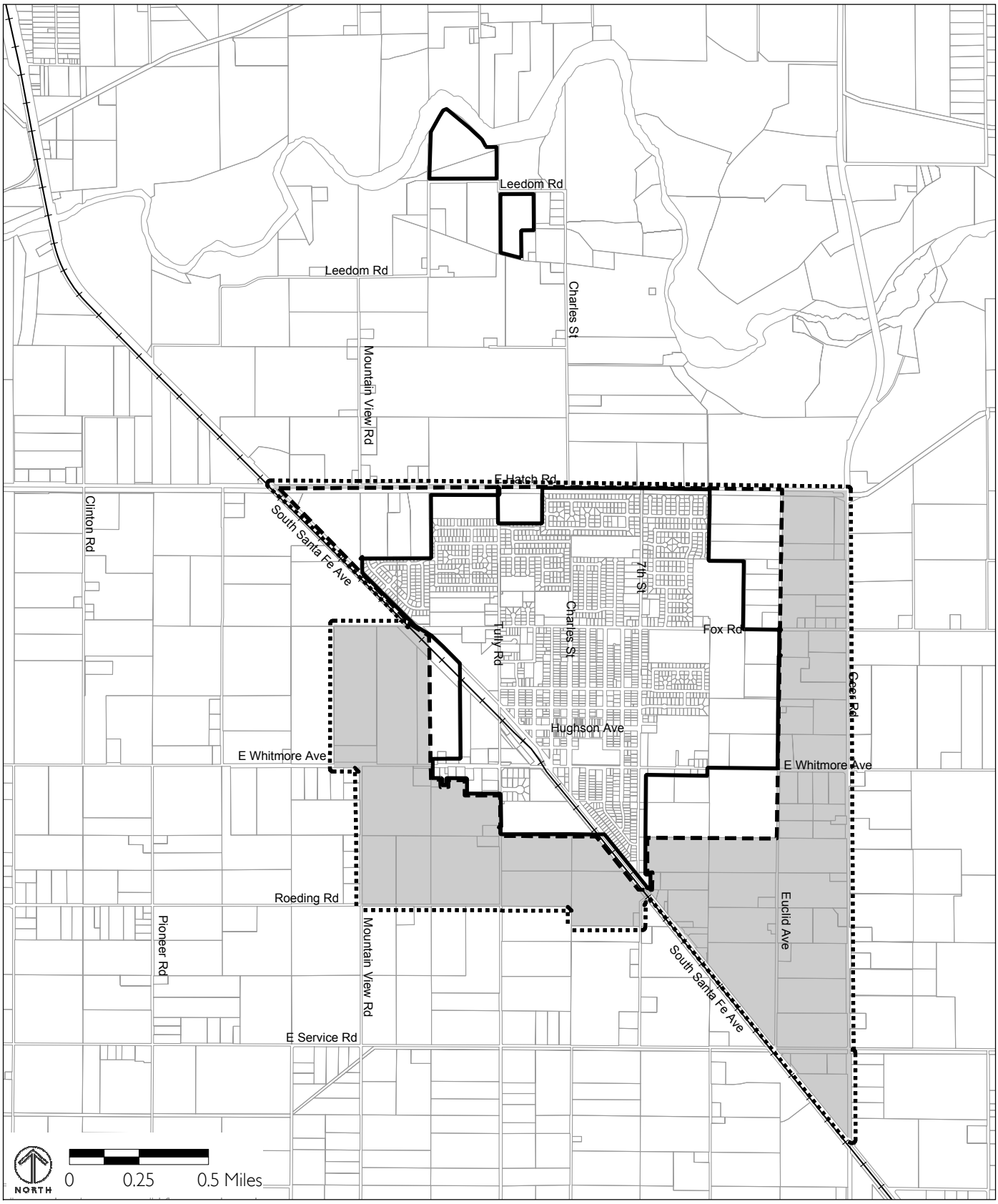
for ensuring that the City is able to comment on development proposed for the SOI prior to annexation and to begin planning for future development of the area. The total SOI outside the city limits is approximately 1.6 square miles and includes an agricultural buffer between Euclid Avenue and Geer Road.

While updating the General Plan, the City decided to propose revisions to the Stanislaus Local Agency Formation Commission (LAFCO)-approved SOI boundary. These changes are proposed since much of the existing LAFCO-approved SOI has already been developed, or is already proposed for development, and the 2005 General Plan is meant to plan for potential development for the next 20 years. Figure 3-3 depicts the proposed changes to the SOI in the 2005 General Plan, which are again subject to LAFCO approval. To comply with current LAFCO regulations, Hughson's SOI has been divided into a Primary and Ultimate SOI, as shown in Figure 3-4. The Primary SOI depicts areas that may develop within the first 10 years of the 2005 General Plan, through 2015, while the Ultimate SOI includes the remainder of the SOI area and may development between 2015 through 2025.

For the purposes of this EIR, when the term SOI is used, it refers to the SOI designed in the 2005 General Plan. When appropriate, it is noted if the LAFCO-approved SOI boundary is being discussed.

3. Hughson Planning Area

The Planning Area delineated in the 2005 General Plan includes all unincorporated land north to the Tuolomne River, west to Clinton Road, south to Grayson Road and east to Berkeley Avenue. The Hughson Planning Area includes land outside the SOI as a signal to the County and other nearby local and regional authorities that Hughson recognizes that development within this area has an impact on the future of the city, even though the City has no control over development in the area. Since no change is proposed for the Planning Area in the 2005 General Plan, this EIR does not analyze the Planning Area.



Data Source: Stanislaus County GIS, City of Hughson

General Plan Sphere of Influence

LAFCO-adopted Sphere Of Influence

City Limits

New Area Added to Sphere of Influence

FIGURE 3-3

SPHERE OF INFLUENCE BOUNDARY CHANGES

CITY OF HUGHSON
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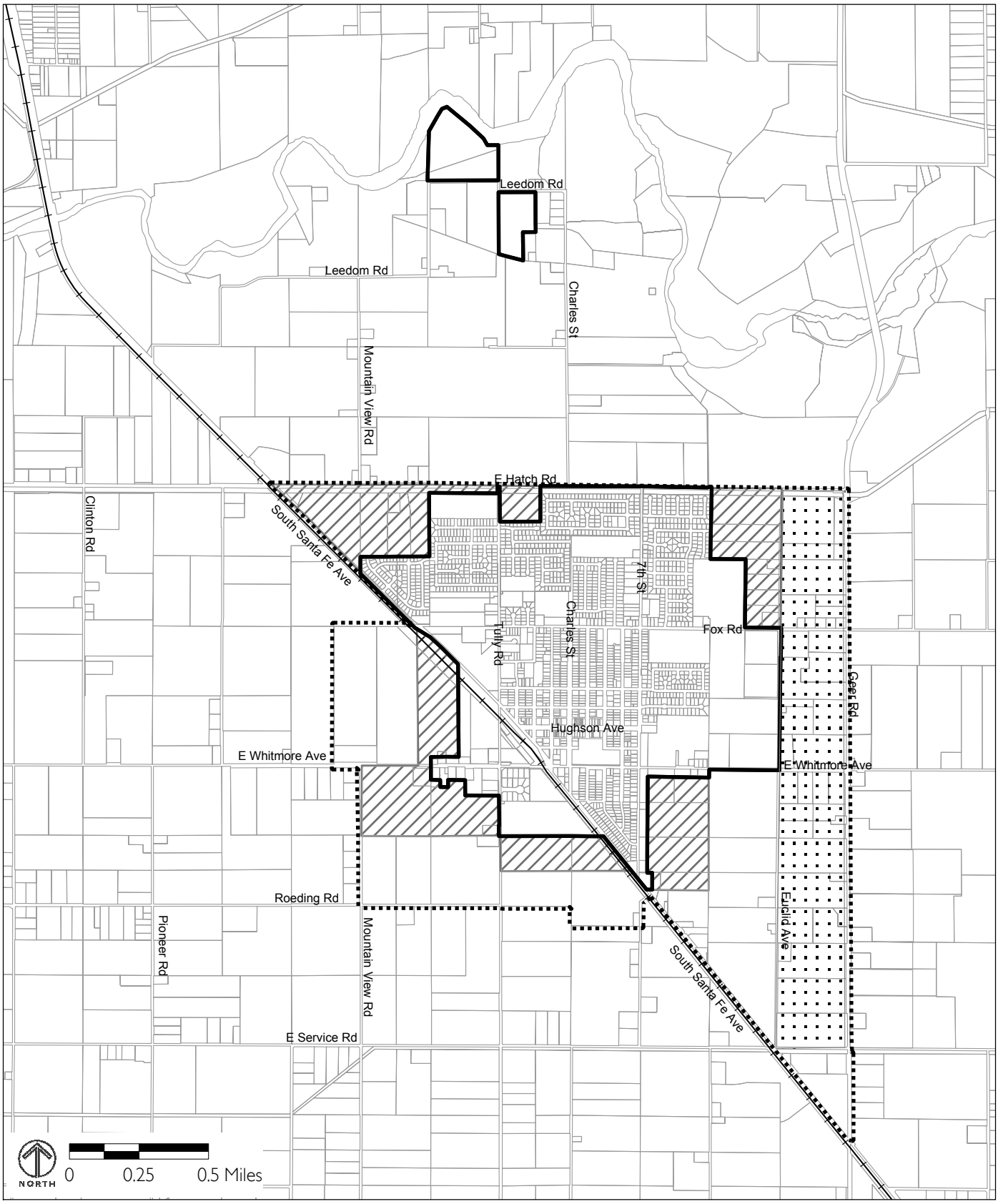

Data Source: Stanislaus County GIS

FIGURE 3-4

Primary Sphere of Influence

Ultimate Sphere of Influence

City Limits

Agricultural Buffer

PRIMARY AND ULTIMATE SPHERE OF INFLUENCE

CITY OF HUGHSON
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C. General Plan Objectives

The 2005 General Plan provides the fundamental basis for the City's land use and development policy, and represents the basic community values, ideals and aspirations to govern a shared environment through 2025. The 2005 General Plan addresses all aspects of development including land use, community character, transportation, housing, public facilities, infrastructure and open space, among other topics.

California Government Code Section 65300 requires that a General Plan be comprehensive, internally consistent and plan for the long-term. Although required to address the issues specified by State law, the General Plan may be ultimately organized in a way that best suits Hughson. The Plan should be clearly written, available to all those concerned with the community's development and easy to administer.

The overall role of the 2005 General Plan is to:

- Define a realistic vision of what the City desires to be in 20 years.
- Express the policy direction of the City of Hughson in regard to its physical, social, economic, cultural and environmental character.
- Serve as a comprehensive guide for making decisions about land use, community character, circulation, open space, the environment, and public health and safety.
- Serve as the City's "constitution" for land use and community development. That is, it is to provide the legal foundation for all zoning, subdivision and public facilities ordinances, decisions and projects, all of which must be consistent with the 2005 General Plan.
- Be in a clear and easy to understand form that encourages public debate and understanding.

D. The General Plan Update Process

The General Plan update process began in 1998 and ended in 2005. During this period, a range of public input opportunities occurred to ensure that an updated General Plan would reflect the community's vision for Hughson. Consequently, several previous drafts of the General Plan were produced in response to changes in public opinion regarding the Plan's direction. The following various outreach efforts were undertaken to involve residents in the process:

1. Early Public Outreach and Involvement

Early in the planning process, the public provided initial input on the issues and concerns that they felt would be important to consider during the General Plan update process. In addition to a community survey in 1998, a couple of citizen steering committees participated at various stages of the General Plan update process by providing comments and suggestions for various drafts of the Plan. Both the public survey and steering committee input were reviewed during the final General Plan update process.

2. Planning Commission/City Council Study Session

A public workshop will be held on July 11, 2005 to allow the Planning Commission, City Council and members of the public to review the 2005 General Plan and provide comments during the official, State-mandated review period.

3. Public Review Period and Adoption

As required by State law, the 2005 General Plan will be circulated for a 45-day period along with the associated environmental review during the months of July and August, officially starting on June 30, 2005 and ending on August 15, 2005. During this time, the public will be allowed to submit additional comments and all of the comments received will be taken into consideration at the public hearings held in front of the Planning Commission and City Council. The City Council would adopt the 2005 General Plan after this public review period.

E. General Plan Contents

The 2005 General Plan includes an introduction and a brief overview of Hughson, as well as six separate "elements" that set goals, policies and actions for each given subject. These six elements cover seven topics required by California State Government Code Section 65302. Some State-required topics have been combined or included into other elements, as allowed by State law. As previously mentioned, the Housing Element, one of the required elements, was adopted in 2004 under a separate process and is not addressed in this EIR. Following is a brief explanation of the topics included in the 2005 General Plan:

- **Land Use Element.** The State-required Land Use Element designates all lands within the City for specific uses such as housing, commercial, industrial, open space and recreational, public facilities and agriculture uses. The Land Use Element also provides development regulations for each land use category, and overall land use policies for the City.
- **Circulation Element.** State law requires that a Circulation Element specify the general location and extent of existing and proposed major streets and other transportation facilities. As required by law, all facilities in the Circulation Element are correlated with the land uses identified in the Land Use Element.
- **Conservation and Open Space Element.** This Element combines two elements required under State law, the Conservation Element and the Open Space Element. It addresses the preservation of open space and the conservation, development and utilization of natural resources. Also included in the Element are goals and policies for the protection and preservation of agricultural, biological and cultural resources. Finally, this Element covers the issues of air quality, energy conservation, and water quality and conservation.
- **Public Services and Facilities.** This optional Element assesses the current state of public services and facilities within the City, including law enforcement, fire service, schools, libraries, government facilities, water, wastewater, stormwater drainage, solid waste and utilities. Goals and

policies focus on ensuring minimum service levels within Hughson, with and without additional development.

- **Safety Element.** State law requires the development of a Safety Element to protect the community from risks associated with the effects of seismic and other geologic hazards, flooding and dam inundation, and hazardous materials, as well as ensuring adequate emergency preparedness.
- **Noise Element.** The State also requires a Noise Element as part of the 2005 General Plan to address the noise environment in the community, and analyze and quantify current and projected noise levels from a variety of sources.

F. Organization of the Elements

Each element of the 2005 General Plan contains background information and a series of goals, policies and actions. The goals, polices and actions provide guidance to the City on how to direct change and manage its resources over the next 20 years. The following provides a description of each and explains the relationship between each:

- A **goal** is a description of the general desired result that the City seeks to create through the implementation of the 2005 General Plan.
- A **policy** is a specific statement that guides decision-making in working to achieve a goal. Such policies, once adopted, represent statements of City regulation and require no further implementation. The 2005 General Plan's policies set out the standards that will be used by City staff, the Planning Commission and City Council in their review of land development projects and in decision-making about City actions.
- An **action** is a program, implementation measure, procedure or technique intended to help to achieve a specified goal.

G. Summary of Proposed Actions

The following provides a summary of some of the major changes between the 1984 General Plan and the 2005 General Plan.

1. Proposed Land Use Designations

The 2005 General Plan defines various land use designations with their allowable uses and maximum densities and intensities. These are summarized in Table 3-2. The proposed land use designations modify some of the land use categories contained in the 1984 General Plan. The following describes the major proposed designation changes:

- **Residential.** The names of the various residential categories have been renamed from the 1984 General Plan names. In addition, the Low Density Residential and Medium Density Residential designations in the existing 1984 General Plan have been combined into a single designation, Low Density Residential. Language was included for the 2005 General Plan Medium Density Residential designation to discourage purely single family subdivision for land in this category. Minimum residential densities have also been added to all designations except Low Density Residential. The Residential Infill Area has been expanded to include the newly built subdivisions that were approved prior to when the 8,500 square foot minimum lot size requirement was adopted for Low Density Residential areas.
- **Commercial.** The General Commercial designation was revised to allow for more general commercial uses outside of the Downtown where appropriate, and when it would not detract from the viability of the Downtown area. The previous General Commercial designation was renamed Downtown Commercial. Maximum intensity levels were also added for each commercial designation to comply with State law.
- **Industrial.** As with commercial uses, a maximum intensity was added.
- **Public Uses.** This designation was broken into Park/Open Space and Public Facility to better represent actual use. Maximum intensities were added to the Park/Open Space designation.

TABLE 3-2 **LAND USE DESIGNATION ACREAGES**

Land Use Category	City Limits	% of Total in City Limits	SOI	% of Total in SOI	Total Acres
Low Density Residential (0-7 du/gross acre)	359	40.0%	185	18.0%	544
Medium Density Residential (5.1-14 du/gross acre)	42	4.7%	29	2.8%	71
High Density Residential (10.1-26 du/gross acre)	51	5.7%	44	4.3%	95
Downtown Commercial (0-30 du/gross acre) (Maximum FAR – 1.8)	17	1.9%	0	0%	17
Neighborhood Commercial (Maximum FAR – 0.6)	1	0.1%	2	0.2%	3
General Commercial (Maximum FAR – 0.5)	23	2.6%	38	3.7%	61
Service Commercial (Maximum FAR – 0.5)	0	0%	23	2.2%	23
Industrial (Maximum FAR – 0.6)	74	8.2%	347	33.8%	421
Park/Open Space (Maximum FAR – 0.3)	31	3.4%	0	0%	31
Public Facility	117	13.0%	31	3.0%	148
Agriculture (0-0.5 du/gross acre) (Maximum FAR – 0.3)	0	0%	297	28.9%	297
Roads/Right-of-Way	184	20.5%	31	3.0%	215
Total	**899**	**100%**	**1,027**	**100%**	**1,926**

- **Agriculture.** This is a new designation added to provide for an agricultural buffer between Euclid Avenue and Geer Road.

2. Land Use Map

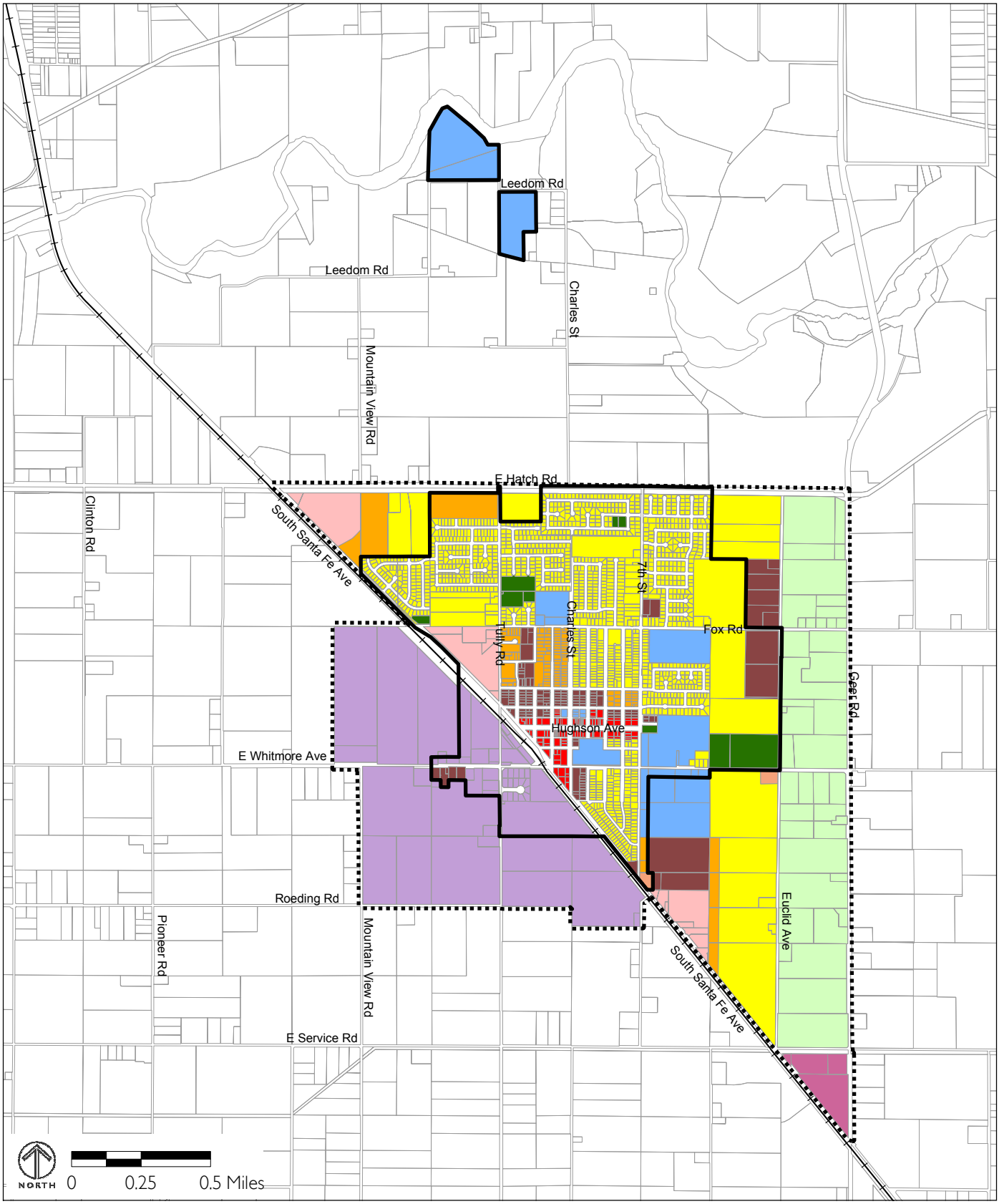
The 2005 General Plan land use map, shown in Figure 3-5, includes several changes to the land use designations from the existing 1984 General Plan land use map. Major land use redesignations include:

- The parcel at the southeast corner of the Santa Fe Avenue/Hatch Road intersection from lower density residential uses to General Commercial and Medium Density Residential.
- Properties used for parks and open space to Park/Open Space and property used for public uses to Public Facility. Previously these areas were designated for residential and commercial uses.
- Commercial property within the industrial core area to the southwest of Santa Fe Avenue to Industrial for consistency with the surrounding properties.
- The property along the northwest side of the Fox Road/Euclid Avenue intersection from lower density residential to High Density Residential.
- Expansion of the SOI and designation of new land previously outside the existing LAFCO-approved SOI.

H. Circulation Improvements

The 2005 General Plan also included a Circulation Plan, shown in Figure 3-6. The system is comprised of a network of arterial, collector and local roads designed to support the 2005 General Plan land use pattern and implement the General Plan goals, policies and actions.

Based on the traffic and circulation studies completed for Hughson and the policies and actions contained in the 2005 General Plan, several



Data Source: Stanislaus County GIS; City of Hughson

Residential Designations

- Low Density Residential
- Medium Density Residential
- High Density Residential

Agriculture Designations

- Agriculture

Commercial Designations

- Downtown Commercial
- Neighborhood Commercial
- General Commercial
- Service Commercial

Industrial Designations

- Industrial

Public/Quasi-Public Designations

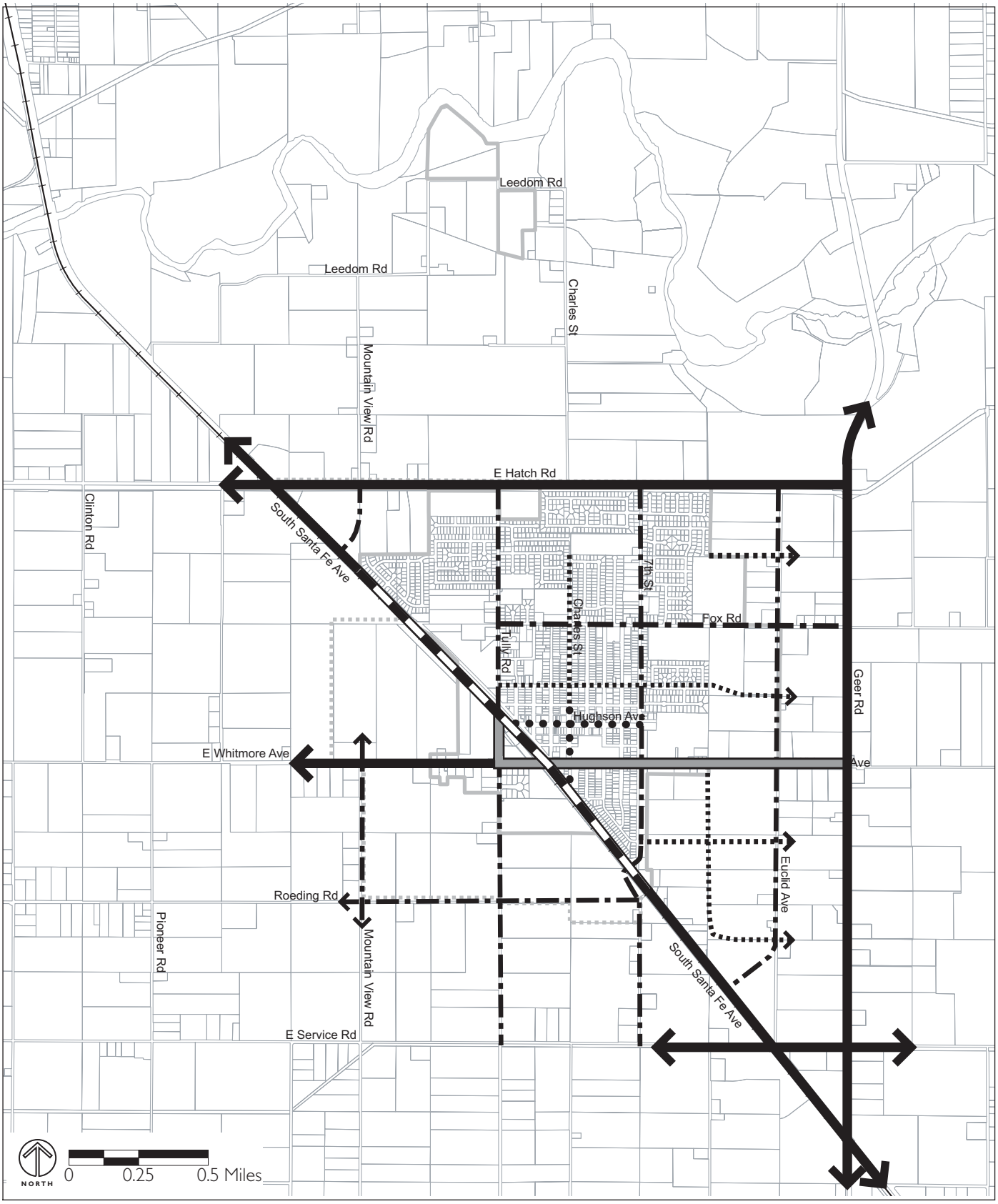
- Park/Open Space
- Public Facility

- Sphere Of Influence
- City Limits

FIGURE 3-5

LAND USE DESIGNATIONS

CITY OF HUGHSON
GENERAL PLAN EIR



Data Source: Stanislaus County GIS, Kd ANDERSON Transportation Engineers

FIGURE 3-6

City Limits

Sphere Of Influence

Four-Lane Arterial

Two-Lane Arterial

Santa Fe Avenue Corridor Study Area

Downtown Collector

Major Collector

Minor Collector

CIRCULATION PLAN

CITY OF HUGHSON
GENERAL PLAN EIR

improvements to the local circulation system have been identified to support the land use plan. These are described below and identified on Figure 3-7; the numbering on the figure corresponds to the numbering below.

However, the 2005 General Plan recognizes that the ultimate alignment of the roadway system will depend on a detailed study of Santa Fe Avenue and the ability to modify railroad crossings, which may result in some variation to the southern portion of the circulation system, especially around the 7th Street railroad crossing. Even if the detailed design of the system needs to be modified, the system will still incorporate the following features and improvements:

1. **Santa Fe Avenue Improvements.** Improve the capacity of Santa Fe Avenue by expanding to four lanes where feasible and improving the major Santa Fe Avenue intersections of Hatch Road, Geer Road, Tully Road, Mountain View Road, Whitmore Avenue, 7th Street, Euclid Avenue and Service Road, as described below.
2. **Hatch Road, Geer Road, Service Road and Whitmore Road Expansion.** Expand Hatch, Service and Geer Roads from two to four lanes, as well as the portion of Whitmore Avenue west of Tully Road.
3. **Mountain View Road Extension.** Extend Mountain View Road south across the Hatch Road Canal to relieve traffic from the Santa Fe Avenue/Hatch Road intersection.
4. **Canal Crossings.** Provide additional crossings across the Hatch Road canal at Mountain View Road and Euclid Avenue.
5. **7th Street Railroad Crossing Improvements.** Realign the 7th Street at-grade crossing to create a continuous collector road across Santa Fe Avenue.
6. **New Collectors.** Extend the current ¼-mile grid system to the northeast of the railroad to provide additional east-west collectors from 7th Street to Euclid Road, and a new north-south collector from Whitmore Avenue south between 7th Street and Euclid Avenue.

Data Source: Stanislaus County GIS, kdANDERSON Transportation Engineers

FIGURE 3-7

City Limits

Sphere Of Influence

(1) Various Roadway Improvements

Canal Crossing (4)

7th Street Railroad Crossing Improvements (5)

City Identified Intersection Improvements (9)

County Identified Intersection Improvements (10)

(Note: numbers correspond to descriptions on pages 3-19 to 3-21)

CIRCULATION IMPROVEMENTS

CITY OF HUGHSON
GENERAL PLAN EIR

7. **New and Expanded Industrial Area Collectors.** Improve Tully Road and 7th Street south of the current city limits to serve as major collectors. Plan for the eventual expansion of Roeding Road and Mountain View Road to serve as major collectors when the industrial area eventually builds out.

8. **Euclid Avenue Realignment.** Realign Euclid Avenue to reduce the number of major roadways intersecting at the current five-way Santa Fe Avenue/Euclid Avenue/Service Road intersection.

9. **City Identified Intersection Improvement**s. Make the following intersection improvements:
   - **Santa Fe Avenue/Tully Road.** Signalize the intersection, widen the Burlington Northern/Santa Fe railroad crossing and add auxiliary lanes.
   - **Santa Fe Avenue/Mountain View.** Signalize with left turn lanes.
   - **Santa Fe Avenue/Whitmore Avenue.** Signalize the intersection, widen the Burlington Northern/Santa Fe railroad crossing and add auxiliary lanes.
   - **Santa Fe Avenue/7th Street.** Signalize the intersection, re-align the two segments of 7th Street and widen to add auxiliary lanes.
   - **Santa Fe Avenue/Euclid Avenue.** Relocate Euclid as proposed, signalize the intersection with left turn lanes.
   - **Santa Fe Avenue/Service Road.** Signalize with left turn lanes.
   - **Hatch Road/Tully Road.** Signalize with left turn lanes.
   - **Whitmore Avenue/7th Street.** Signalize with left turn lanes.
   - **Hatch Road/Mountain View.** Signalize with left turn lanes.
   - **Fox Road/Tully Road.** Signalize with left turn lanes.
   - **Fox Road/7th Street.** Signalize with left turn lanes.
   - **Service Road/Geer Road.** Signalize with left turn lanes.

10. **County Identified Intersection Improvements.** In addition to the improvements identified by the City in the 2005 General Plan, the County has also identified several changes to intersections in the Hughson area, which have been included in the overall circulation system. The County identified changes are:
    - **Geer Road/Hatch Road.** Signalize intersection and widen approaches to accommodate two through lanes and a left turn lane in each direction.
    - **Geer Road/Whitmore Avenue.** Signalize intersection and widen approaches to accommodate two through lanes and a left turn lane in each direction.
    - **Fox Road/Geer Road.** Add left-turn lanes.
    - **Santa Fe Avenue/Hatch Road.** Signalize intersection and widen approaches to accommodate two through lanes and a left turn lane in each direction.
    - **Santa Fe Avenue/Geer Road.** Signalize intersection and widen approaches to accommodate two through lanes and a left turn lane in each direction.

I. General Plan Buildout Projections

Tables 3-3 and 3-4 project future residential and non-residential growth within the City of Hughson and the SOI. A range of growth assumptions are presented to illustrate different potential growth scenarios for residential and non-residential uses. Since some portion of land used in new development will need to be allocated for roads, public facilities (such as schools and parks), and to address design features, development at the maximum allowed densities and intensities is very unlikely to occur. These needs were taken into consideration and an adjustment applied. Also, in certain cases, assumptions were made as to the rate of development and location of infill or redevelopment of already developed areas and additional adjustments made.

TABLE 3-3 **RESIDENTIAL GROWTH PROJECTIONS – NET INCREASE**

	City Limits				Sphere of Influence				Total			
Land Use	**Acres**	**Max DUs**	**Min DUs**	**Exp DUs**	**Acres**	**Max DUs**	**Min DUs**	**Exp DUs**	**Acres**	**Max DUs**	**Min DUs**	**Exp DUs**
Low Density Residential (LDR) (0-7 du/gross acre)	96	672	-	304	176	1,232	-	1,056	272	1,904	-	1,360
Medium Density Residential (MDR) (5.1-14 du/gross acre)	4	56	20	44	38	532	194	418	42	588	214	462
High Density Residential (HDR) (10.1-26 du/gross acre)	2	52	20	44	45	1,170	455	990	47	1,222	475	1,034
Downtown Commercial (0-30 du/gross acre)	2	65	0	13	0	0	0	0	2	65	0	13
Agriculture (Residential)	0	0	0	0	277	14	0	14	277	14	0	14
Subtotal		845	40	405		2,948	649	2,478		3,793	689	2,883
Less Replaced Existing DUs		36	36	36		94	94	94		130	130	130
Total Net Increase		**809**	**4**	**369**		**2,854**	**555**	**2,384**		**3,663**	**559**	**2,753**
Population Growth												
Net Population Increase		2,683	13	1,224		9,467	1,841	7,908		12,150	1,854	9,132

DU = dwelling units, Max = maximum, Min = minimum, Exp = expected

Assumptions:

- Expected residential densities are: LDR = 6 du/acre, except for areas zoned R-A, where 2 du/acre was used; MDR = 11 du/acre; HDR = 22 du/acre; Agriculture = 1 du/40 acres. Only 277 acres of the total 297 acres of Agriculture are assumed to develop as residential.
- The expected density for Downtown Commercial was based on the assumption that 20% of the area identified for potential infill (see Table 3-3), would be constructed at 30 du/acre.
- "Replaced Existing DUs" are existing units that will either be replaced by non-residential uses, or which have to be subtracted from the future projections to ensure that they are not double counted. These units are included in the existing residential unit calculations in Table 3-1.
- Persons per household is assumed at 3.317 to estimate future population increase.

TABLE 3-4 **NON-RESIDENTIAL GROWTH PROJECTIONS – NET INCREASE**

	City Limits			Sphere of Influence			Total		
Land Use	**Acres**	**Max Sq Ft**	**Exp Sq Ft**	**Acres**	**Max Sq Ft**	**Exp Sq Ft**	**Acres**	**Max Sq Ft**	**Exp Sq Ft**
Downtown Commercial (Maximum FAR – 1.8)	2	156,977	96,400	0	0	0	2	156,977	96,400
Neighborhood Commercial (Maximum FAR – 0.6)	2	52,272	26,136	2	52,272	26,136	4	104,544	52,272
General Commercial (Maximum FAR – 0.5)	21	457,380	274,428	38	827,640	496,584	59	1,285,020	771,012
Service Commercial (Maximum FAR – 0.5)	0	0	0	17	370,260	222,156	17	370,260	222,156
Industrial (Maximum FAR – 0.6)	31	632,537	225,269	347	9,069,192	906,919	378	9,701,729	1,132,188
Public/Quasi-Public	0	0	0	31	n/a	270,072	31	n/a	270,072
Agriculture (Industrial/Commercial) (Maximum FAR – 0.3)	0	0	0	20	261,360	217,800	20	261,360	217,800
Total Net Increase		**1,299,166**	**622,233**		**10,580,724**	**2,139,667**		**11,879,890**	**2,761,900**

FAR = Floor Area Ratio, Sq Ft = square footage, Max = maximum, Min = minimum, Exp = expected

Assumptions:

- "Acres" includes vacant parcels and parcels that are currently used for other uses, but are expected to eventually convert to the General Plan designation.
- Downtown Commercial acres were calculated by identifying potential sites which are either vacant or appropriate for redevelopment, per the Downtown Façade Study, and assuming that those buildings would be two-story. Existing development was subtracted from the expected sq ft to avoid double counting.
- Neighborhood Commercial, General Commercial, Service Commercial assumed an Expected FAR of 0.3. The expected square footage for General Commercial is conservative (ie, overestimates), since most likely only 1 or 2 of the 3 identified General Commercial areas will be developed during the 20 year planning period.
- Industrial assumed an Expected FAR of 0.3 and the Maximum FAR depicts development of all land designated Industrial. For the Expected FAR, all of the Industrial land in the city limits is assumed to develop during the next 20 years. 20% of the SOI's Industrial land is assumed to develop in the next 20 years. The expected development of Industrial is conservative, since it results in a about 250% increase in industrial square footage, which is about 200% higher than the Stanislaus Council of Government has projected for Hughson. The Maximum and Expected calculations for the city limits has netted out the existing industrial located along Tully Road east of Santa Fe Avenue.
- The 2005 General Plan does not identify a maximum FAR for Public Facility since the land in this category is mainly school district property, which the City does not have control over, or various City properties, which due to their widely varying uses, require different allowable FARs. The Expected FAR is 0.2 FAR.
- For the Agriculture land, it was assumed that of the total acreage of 297, 20 acres would eventually be developed for Agriculture-based commercial and industrial uses. This would allow for approximately 2 additional shelling operations and a couple acres of commercial uses.

For the purposes of analysis for this EIR, the "expected" growth rates are used. The "expected" growth would theoretically allow for 2,753 new dwelling units within the city and SOI, for a total expected population increase of 9,132 persons. Non-residential development in the city limits and SOI could increase by 2,761,900 square feet for industrial development.

J. Project Alternatives

In compliance with CEQA guidelines, the Program EIR evaluates several alternatives to the 2005 General Plan. Potential environmental impacts from each of the alternatives will be compared to the determined impacts for the proposed 2005 General Plan, to assess a possibly superior Plan. Alternatives evaluated by this EIR include, but are not limited to:

- **No Project Alternative.** The No Project Alternative assumes that growth would occur as allowed under the existing 1984 General Plan
- **Concentrated Growth Alternative.** The Concentrated Growth Alternative assumes the same final number of residential units in 2025 as the proposed 2005 General Plan. However, the density of residential development will increase to reduce the amount of agricultural land that will be needed to provide the same growth capacity. High and Medium Density Residential uses will replace some Low Density Residential in the city limits and SOI.
- **Reduced Density Alternative.** The Reduced Density Alternative would provide for the same number of new residential units, but would replace some of the proposed Medium Density and High Density Residential land with Low Density Residential.

K. Intended Uses of the General Plan

As mentioned at the beginning of this Section, the Program EIR is intended to review potential environmental impacts of the adoption and implementa-

tion of the 2005 General Plan, and determine corresponding mitigation measures, as necessary. Subsequent projects will be reviewed by the City for consistency with the 2005 General Plan and this Program EIR, and adequate project-level environmental review will be conducted as required by CEQA. Projects successive to this Program EIR could include the following:

- Specific Plan approvals
- Property rezonings
- Land annexations
- Development Plan approvals, such as tentative maps, variances, conditional use permits and other land use permits
- Development Agreement approvals
- Facility and Service Master Plan and Financing Plan approvals
- Approval and funding of major projects
- Municipal Bond issuances
- Issuance of permits and other approvals necessary for implementation of the 2005 General Plan
- Property acquisition by purchase or eminent domain
- Permit issuances and other approvals necessary for public and private development projects
- Subsequent updates and amendments to the Hughson SOI

4 ENVIRONMENTAL EVALUATION

This chapter consists of 14 sections that evaluate the environmental impacts of the proposed 2005 General Plan. Each section generally follows the same format, and consists of the following subsections:

- The *Existing Setting* portion describes current conditions with regard to the environmental factor reviewed.
- The *Standards of Significance* explain how an impact is judged to be significant in this EIR, based on various CEQA Guidelines standards.
- The *Impact Discussion* gives an overview of potential impacts, and tells why impacts were found to be significant or less than significant.
- The *Cumulative Impact Discussion* section provides an analysis of the potential cumulative impacts of the 2005 General Plan.
- The *Impacts and Mitigation Measures* number and list identified impacts and, where possible, identify measures that would mitigate each impact. A statement regarding the level of significance after mitigation is also included.

A. Cumulative Impact Approach

CEQA Guidelines require consideration of the potential cumulative impacts that could result from a proposed project in conjunction with other projects in the vicinity. Such impacts can occur when two or more individual effects create a considerable environmental impact or compound other environmental consequences. In the case of a city-wide planning document such as the 2005 General Plan, cumulative effects are effects that combine impacts from the project's development in the city with effects of development in other portions of the region. By definition, no development within the city would be considered part of the cumulative impacts; instead, development inside the city is part of the project itself.

The cumulative impacts of a General Plan take into account growth projected by the Plan, in combination with impacts from projected growth in other cities in the region. In each of the following 14 sections, the cumulative impact

analysis examines cumulative effects of the 2005 General Plan, in combination with Stanislaus Council of Governments (StanCOG)-projected growth for the other cities in Stanislaus County.

StanCOG is responsible for estimating regional growth for Stanislaus County. The last regional population and employment forecast for the region was completed for StanCOG's Projections 2005. The 2025 population for Stanislaus County, as projected by StanCOG, is 758,144. The projected 2025 population for Hughson is 11,431.

For the purposes of this cumulative analysis, a county-level cumulative analysis is used for the impact analyses. The potential cumulative effects of the 2005 General Plan are summarized in each of the following 14 sections.

B. Format of Impact Discussions

In Sections 4.1 through 4.14, each numbered impact discussed under the *Impacts and Mitigation Measures* section is considered significant prior to mitigation. As required, mitigation measures have been suggested that will reduce significant environmental impacts to less than significant levels, where feasible. Where mitigation would not reduce impacts to a less-than-significant level, impacts are noted as significant and unavoidable in the text.

All mitigation measures are stated with conditional language ("should") because they are recommendations, and not conditions of approval for the project, unless they are specifically adopted as conditions by the City. Under CEQA, although an EIR is required to identify mitigation measures that could reduce identified impacts to less-than-significant levels, a City is not required by State law to adopt these mitigation measures, even after the EIR is certified. The City could instead require alternative mitigation measures that are equally effective, or it could find that the identified measures are infeasible and approve the General Plan without mitigation under a finding of overriding consideration. If the City adopts the suggested mitigation meas-

ures as conditions of approval, then their language will be changed from the conditional "should" to the mandatory "shall."

4.1 AESTHETICS

This section describes the visual resources of Hughson and provides an evaluation of the effects the proposed 2005 General Plan would have on these resources. Impacts and changes involving light and glare, such as additional nighttime lighting, are also discussed in this section.

A. Existing Setting

The following describes the existing setting regarding aesthetic and visual resources in Hughson.

1. Regulatory Setting

Hughson has already adopted several regulations and guidelines to control the visual impact of new development on the visual character of the community as a whole.

a. Design Guidelines

In 2004, Hughson adopted Design Expectations that inform developers of the City's expectations for new residential development. The Design Expectations build on generalized design principles to provide specific examples of how to achieve a pedestrian-friendly community that builds on Hughson's traditional character. Prior to submitting a project application, developers are required to complete the Self Certification Checklist contained in the Design Expectations to ensure that each development incorporates the spirit of the desired design principles.

The City does not have any adopted design guidelines for development of industrial or commercial buildings.

b. Standard Conditions of Approval and Zoning Ordinance

The City's adopted Standard Conditions of Approval require new residential subdivisions to ensure that new street lighting is directed away from adjacent residences, and for the developer to submit a light plan that provides safe and adequate neighborhood lighting without excessive light spillage. The City's

Zoning Ordinance requires Industrial and Neighborhood Commercial uses to ensure that lighting is directed and shielded so as not to illuminate neighboring residential areas. Lighting for General Commercial and Service Commercial zones is not specifically addressed in the Zoning Code.

c. Downtown Façade Program

While there are many attractive, older buildings in the Downtown area, some of the commercial buildings could benefit from improved maintenance. The City, through its Redevelopment Agency, recently approved a Downtown Façade and Streetscape Improvement Study. The project is comprised of several separate efforts, including a façade improvement program that provides design guidance and outlines a potential funding program; an evaluation of targeted buildings to assess the feasibility of including them in the façade improvement program; and a future development concept plan that outlines a comprehensive strategy for the Downtown, including potential infill sites, pedestrian and bicycle facilities, and locations for shared parking.

d. Street Tree Ordinance

The City has adopted a Street Tree Ordinance to protect street trees within the public right-of-way. As part of the Street Tree Ordinance, the City is required to adopt a Master Tree Plan that will outline a comprehensive approach to landscaping along the major roadways in Hughson. The Façade Improvements Program will also provide guidance for the types, design and placement of street trees in the Hughson downtown area.

2. Visual Character and Resources

The aesthetic character of Hughson is part small-town atmosphere and part agricultural, due to its long history and the agricultural landscapes that surround the area.

a. Community Visual Character

Surrounded mainly by orchards, row crops, grazing lands and the Tuolumne River corridor to the north, the City of Hughson has a traditional downtown area surrounded by mainly single-family residential neighborhoods and an

industrial area to the southwest. Hughson is characterized by five distinct visual categories:

- **Downtown.** The Downtown is characterized by a grid street pattern with Hughson Avenue as the main axis of retail, commercial and civic uses.
- **Traditional Residential Neighborhoods.** These neighborhoods are comprised of the City's older single-family housing stock, with scattered multi-family buildings, built on a grid pattern that borders the Downtown.
- **Contemporary Residential Neighborhoods.** These neighborhoods consist of larger homes built mostly since 2000, on discontinuous street systems with cul-de-sacs and street-facing, multi-car garages.
- **Industrial Area**. The industrial area is located to the southwest of the Burlington Northern/Santa Fe Railway. This area contains relatively low intensity manufacturing, agricultural processing, and storage facilities on large parcels with some older single family and mobile home units.
- **Rural and Semi-Rural Areas.** These areas are comprised of agricultural lands, mainly orchards and row crops, scattered with large-lot, rural residential properties, and occasional agriculture-related commercial and industrial uses.

b. Gateways and Entry Corridors

Gateways are entries to the city along major roadways; sometimes called "entry corridors." Entry corridors help provide a transition from rural to urban uses and are important since they expose both travelers and residents to the visual character of the City and the surrounding area. Aesthetically pleasing gateways are also important components of land use planning and community design that contribute to a city's character and sense of place.

The only existing gateway improvement in Hughson is located at the Hughson Avenue/Santa Fe Avenue intersection, where the City has constructed a welcome sign. The Hughson Botanical Gardens has proposed to partner with the City to create a gateway along Whitmore Avenue from Geer Road as part of the Garden's improvement plan, but no specific plans have been identified.

c. Trees and Landscaping

Street trees and established larger trees in and around the city are important features of Hughson's visual character. They also provide shade and cooling along residential streets during Hughson's hot summers.

In addition to residential streets, other places within the community where there are concentrations of trees include the Hughson Botanical Gardens, with its collection of various ornamental trees, and the surrounding orchards. The City's public parks also include larger landscaped areas with playing fields and shade trees.

d. Scenic Vistas

Due to the city's relatively flat topography and distance from both the Sierra and Coastal Ranges, there are limited opportunities for views other than the surrounding agricultural lands. As a result, the scenery around Hughson is characterized by the surrounding active agricultural lands, which include fruit and nut orchards, and row crops. To the north of Hughson, the Tuolumne River corridor provides additional scenic benefits.

3. State Scenic Highways

There are no official State-designated scenic routes in or near Hughson.[1] The major arterials through and adjacent to the city are its major entry corridors, and serve as the primary connections for residents and travelers to the wider region.

4. Light and Glare

Nighttime lighting is brighter within the urbanized portion of Hughson when compared to the mostly undeveloped, surrounding agricultural lands. Major light sources include:

- Households and street lighting.

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[1] Officially Designated State Scenic Highways and Historic Parkways, http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm, accessed on May 2, 2005.

- Lighting from commercial and industrial uses, such as parking lot illumination.
- Motor vehicles on local streets and surrounding highways.

Current sources of glare are the sun or street lighting reflecting off of large expanses of concrete or reflective rooftops. Glass and other reflective surfaces can also be a source of glare.

B. Standards of Significance

The implementation of the proposed project would have a significant impact to visual and aesthetic quality if it would:

- Substantially or demonstrably result in a negative aesthetic alteration to the existing character of the area. A substantial alteration is characterized by a negative "sense of loss" of character or unique resources.
- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

C. Impact Discussion

Development permitted under the 2005 General Plan could result in changes to the visual characteristics of portions of Hughson and the SOI. However, the Plan contains policies that work in conjunction with current City design and development regulations to ensure that new development complements the existing aesthetic fabric of the city and its surrounding environs, and does not threaten scenic corridors or exacerbate issues of light and glare. Implementation of the 2005 General Plan would therefore result in less-than-significant impacts to the aesthetic qualities of the Hughson area, as described in more detail below.

1. Visual Character and Resources

The following subsections address the primary visual aspects within Hughson and analyze the potential visual impacts that could result from the implementation of the 2005 General Plan. The discussion below includes references to the specific goals, policies and actions contained in the 2005 General Plan that would avoid significant visual impacts to the existing character of the area, or in some cases result in positive visual impacts to the community.

a. Community Visual Character

Much of Hughson's scenic value comes from the surrounding working landscapes and its small-town, residential atmosphere. Implementation of the 2005 General Plan would allow growth to take place in some of the adjacent agricultural areas, which would occur mainly in the SOI, or on vacant infill parcels within the city limits. Any new development could modify the visual appearance of Hughson, especially as land in the SOI changes from its existing rural character to that of an urban community. Therefore, policies outlined in the 2005 General Plan are aimed at achieving a balance between maintaining Hughson's small-town feel, preserving its agricultural heritage and accommodating growth.

Goal LU-3 in the 2005 General Plan states that new development should preserve and enhance Hughson's unique small town character. Development should therefore be compatible with physical site characteristics, surrounding land uses and available public infrastructure (Policy LU-3.1). Goal LU-5 and its associated policies further establish the City's vision by encouraging that new residential neighborhoods include characteristics of traditional small town neighborhoods. Policy LU-5.2 specifically states that "...neighborhoods should be designed to provide a 'sense of place' and preserve the City's small-town character...".

High-quality design is also encouraged as a tool for safeguarding the City's character and ensuring a high quality of life in Hughson. New construction or substantial renovations should be designed to provide a visually interesting appearance through variations of site and building design, and building place-

ment and orientation (Policy LU-3.2). Action LU-3.2 supports the compliance of new development proposals with Hughson's established Design Expectations (Action LU-3.2), in addition to the Standard Conditions for Approval.

In addition, the 2005 General Plan contains policies and actions to maintain and enhance the Downtown's urban design and visual qualities, in part to foster economic development in the area. Action LU-4.1 of the 2005 General Plan requires the City to implement the façade and downtown improvement project to improve the visual appearance and pedestrian friendliness of the commercial core. The Land Use Element also contains a listing of urban design concepts and principles to be incorporated into any new development or substantial renovations in the future.

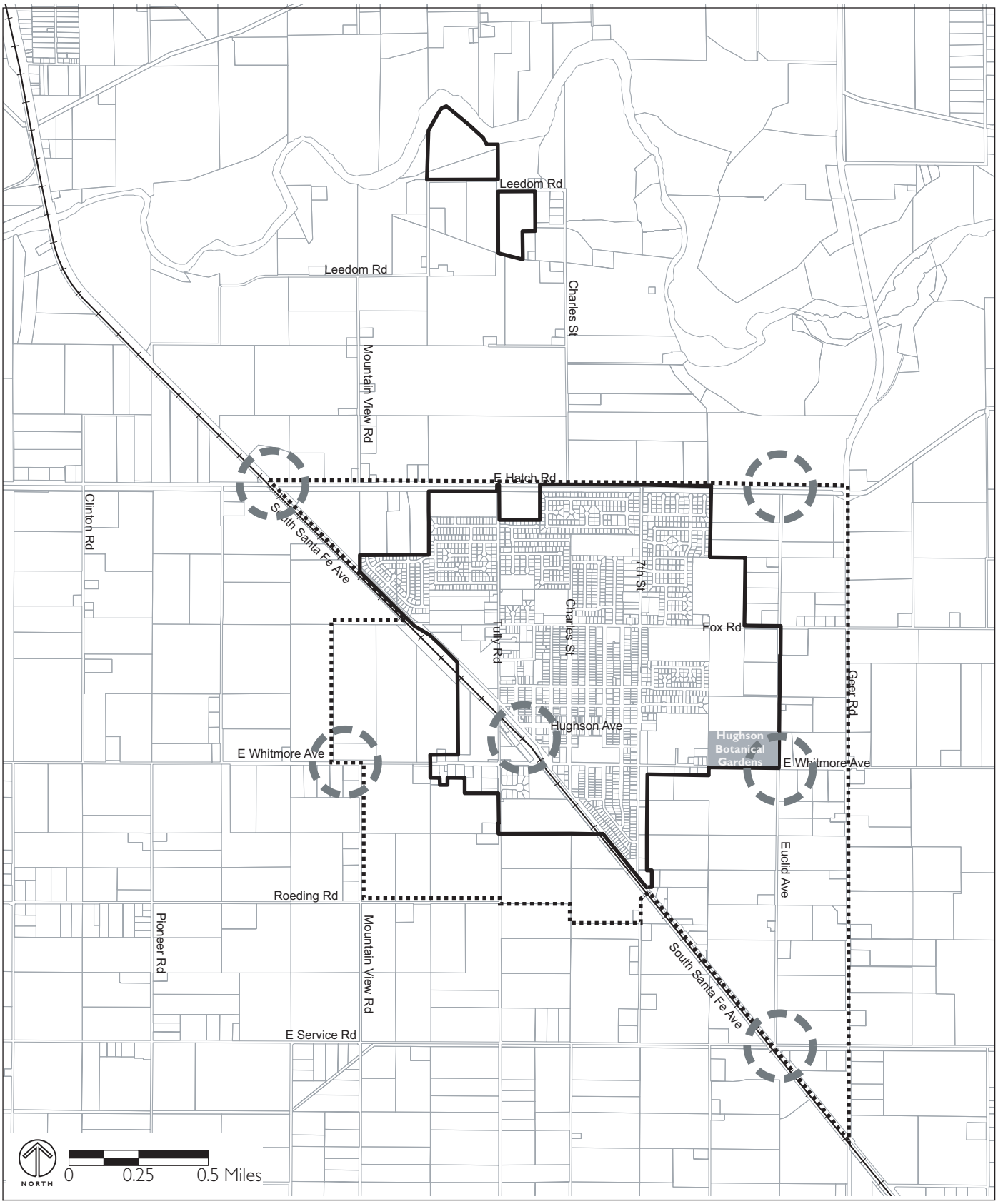
As a result of the above policies and actions, the implementation of the 2005 General Plan is not anticipated to result in a significant negative aesthetic impact to the City's existing overall town and rural character.

b. Entry Corridors and Gateways

Entry corridors are important visual amenities to travelers to and from Hughson, and designated gateways can greatly enhance the City's small-town image. The 2005 General Plan has therefore identified gateways at the following locations:

- Hatch Road/Santa Fe Avenue
- Hatch Road/Euclid Avenue
- Whitmore Avenue/Mountain View Road
- Hughson Avenue/Santa Fe Avenue
- Whitmore Avenue and Euclid Avenue
- Euclid Avenue/Santa Fe Avenue

The Plan further directs the City to create a program for developing these intersections, which are shown in Figure 4.1-1, into designed entrances that would provide a clearly defined sense of place as people enter and leave the



Data Source: Stanislaus County GIS

FIGURE 4.1-1

City Limits

Sphere Of Influence

Gateways

GATEWAYS

CITY OF HUGHSON
GENERAL PLAN EIR

city. As part of this effort, the City will coordinate with the Hughson Botanical Gardens to create the gateway along Whitmore Avenue at Euclid Avenue (Action LU-3.3). Through implementation of this program, the 2005 General Plan would positively improve Hughson's major gateways and corridors.

c. Landscape and Streetscape

The 2005 General Plan recognizes the important role native trees, landscaping and surrounding orchards have on the visual integrity of Hughson. Action LU-3.6 of the 2005 General Plan directs the City to develop a Tree Master Plan that addresses the overall character of the city, and complements the city's gateways, major intersections, and primary and secondary roadways. The Tree Master Plan would also initiate a program to plant street trees in City parks and along public rights-of-way and identify funding sources to fund new street trees in existing neighborhoods.

As interim guidance until the Tree Master Plan is adopted, Policy LU-3.11 requires new residential and commercial development to use landscaping to differentiate between gateways, major intersections, and primary and secondary arterials, where appropriate; develop a palette of appropriate trees for the project, taking into account, soils, rooting characteristics and on-going maintenance of trees; and provide adequate shading along roadways, sidewalks and in parking lots. Policy COS-3.1 also requires new developments to preserve, protect and incorporate established native trees into the site design.

As a result of these policies and actions, the 2005 General Plan would improve the visual appearance of many of the City's roadways and gateways.

d. Scenic Vistas

As the surrounding agricultural lands and orchards greatly contribute to the visual character of Hughson, the 2005 General Plan contains numerous goals, policies and actions intended to protect these amenities into the future. The Land Use Element establishes the City's goal to manage growth in a way that preserves Hughson's small town character and agricultural heritage (Goal LU-1). Although new development is required to preserve views of the surrounding

agricultural lands (Policy LU-3.6), the preservation of agricultural vistas is even more dependent on the continued use of surrounding lands for agricultural. The following describes the various policies and actions contained in the 2005 General Plan that reduce the potential visual impact associated with the change of vistas around Hughson to a less-than-significant level.

i. Regional Partnerships

Agricultural land around Hughson exists mostly on unincorporated County land and therefore requires regional partnerships to preserve it. Policy LU-1.3 in the 2005 General Plan directs the City to work with the County, surrounding jurisdictions and farmland preservation organizations to ensure that urban development occurs only in areas adjacent to existing urbanized areas, and to develop a county-wide program to permanently preserve agricultural community separators between urban areas. Goal COS-1 in the Conservation and Open Space Element also seeks to preserve and protect agricultural lands in and around Hughson, a component of which directs the City to create a county-wide policy in support of the above-mentioned program (Action COS-1.1). Action LU-1.3 of the 2005 General Plan states that the City will team with neighboring jurisdictions to develop a county-wide community separator program that includes or identifies the following:

- Agreements between incorporated cities and Stanislaus County to maintain permanent agricultural community separators between urbanized communities.
- Appropriate locations for urban separators between communities.
- Areas within separator areas to be targeted for property or conservation easement purchase to create barriers to development.
- Community partners, such as Central Valley Farmland Trust, and funding sources useful for program implementation.

ii. Local Planning

The 2005 General Plan also includes policies intended to give Hughson more input on adjacent County land uses, including the preservation of agricultural lands within the designated agricultural buffer between Euclid Avenue and

Geer Road. While the City does not anticipate urban development within the agricultural buffer located between Euclid Avenue and Geer Road during the 20-year planning period, it has included the buffer area in its SOI to ensure that the City has control over future proposed County development so that is occurs in an orderly and controlled manner. This is especially important since much of the buffer area is not subject to Williamson Act contracts, and therefore, has the potential to convert to urban uses.

In addition, new development projects throughout Hughson would be required to use design solutions such as roads, setbacks and other physical boundaries to create sufficient buffers between agricultural uses and urban development (Action COS-1.2). In the event new development results in the loss of orchard trees, the City encourages landscaping with mature trees to create a feeling similar to that of an active orchard (Policy LU-3.1).

2. State Scenic Highways

As previously mentioned, there are no State-designated scenic highways in or around Hughson. As a result, the 2005 General Plan would not impact visual resources within a State-designated scenic highway.

3. Light and Glare

Additional urban development allowed under the 2005 General Plan would result in an increased number of light sources within Hughson, as well as the amount and locations of glare. The City would continue to enforce its existing regulations regarding light and glare in its Standard Conditions of Approval and Zoning Code. The 2005 General Plan also includes Policy LU-3.12, which states that lighting on private and public property should be designed to provide safe and adequate lighting while minimizing light spillage to adjacent properties. Enforcement of existing regulations and implementation of Policy LU-3.12 in the 2005 General Plan would reduce the potential impact related to light and glare to a less-than-significant level.

D. Cumulative Impact Discussion

The 2005 General Plan would result in changes to the visual character of the Hughson area from a rural, agricultural base to one that is more characterized by urban uses, with increased light and glare sources. As outlined above, the 2005 General Plan policies and actions, in conjunction with adopted City regulations, would reduce project-level aesthetic impacts to a less-than-significant level. However, while the 2005 General Plan would not result in a project-level significant aesthetics impact, when combined with the overall growth trends in Stanislaus County, cumulative conversion of the County's visual character from a rural, agricultural character to a more urban feel would result in a cumulative significant, unavoidable aesthetics impact.

E. Impacts and Mitigation Measures

Impact A-1: While the 2005 General Plan would not result in a project-level impact, cumulative development in Hughson and the SOI would contribute to the cumulative change in the visual character of the County, from an agricultural character to a more urban appearance. This cumulative impact would be considered significant and unavoidable.

4.2 AGRICULTURAL RESOURCES

This section contains descriptions of the current agricultural resources in and around Hughson, and an analysis of the potential impacts to these resources from the proposed 2005 General Plan.

A. Existing Setting

The following provides an overview of the existing local and State regulations that work to protect agricultural resources. In addition, information about the existing agricultural resources and importance of agriculture to Hughson and the larger region is included.

1. Regulatory Setting

There are several city, county and State regulations and planning documents that provide protection or address agricultural resources.

a. City of Hughson 1984 General Plan and Zoning Ordinance

The current 1984 General Plan outlines several goals and policies that articulate the value of agricultural lands to the City. However, the 1984 General Plan does not include an agricultural land use designation. As a result, none of the land within the city limits or existing SOI is currently designated for agricultural uses under the 1984 General Plan.[1]

The City's Zoning Ordinance also does not include an agricultural zone, so there is no land zoned for agriculture by the City of Hughson.

b. County General Plan Land Use and Zoning Designations

Stanislaus County has designated unincorporated land outside of the existing Hughson city limits as either Urban Transition, Agriculture or Planned Development (PD). All of the parcels within Hughson's current LAFCO-adopted SOI are designated by the County General Plan as Urban Transition.[2] The purpose

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[1] *City of Hughson General Plan*, 1984, page 8-9 and 79.

[2] Stanislaus County General Plan, 1984. Page 1-24.

of the County's Urban Transition designation is to ensure that land remains in agricultural usage until urban development consistent with Hughson's General Plan is approved. The PD-designation signifies that, because of demonstrably unique characteristics, a parcel may be suitable for a variety of uses without resulting in detrimental effects on other properties. Generally, development within this area pursuant to the City's General Plan would only occur as land is annexed into the city. These Urban Transition parcels are zoned by the County as General Agriculture (A-2-10), which permits agricultural uses and one dwelling unit on parcels up to 10 acres in size.[3]

The remaining unincorporated parcels within the proposed SOI are designated by the County's General Plan for Agriculture, except for four parcels in the southern triangle between Santa Fe Avenue, Geer Road and Service Road, which are designated as PD. The Agriculture designation's primary goal is to allow for the continued use of land for agricultural uses, by avoiding incompatible urban land uses. Limited development, such as dwelling units, commercial services and light industrial uses may be allowed if compatible and related to agricultural activities. The Agriculture designated land around Hughson is zoned General Agriculture (A-2-40). This zone permits a range of agricultural uses, including a second dwelling unit on parcels over 20 acres and encourages the continuation of agricultural uses. Land within a PD designation remains in A-2 zoning until a development proposal has been accepted by the County; at which point the area would be zoned PD. The County determines the allowable density and intensity of use for PD on a case-by-case basis.[4]

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[3] Stanislaus County General Plan, 1984, accessed on May 11, 2005. http://www.co.stanislaus.ca.us/planning/CountyGeneralPlanPDF/genplanone.pdf

[4] Stanislaus County Zoning Ordinance, accessed on May 10, 2005. http://www.co.stanislaus.ca.us/planning/ZoningOrdinancePDF/21.20A-2.pdf

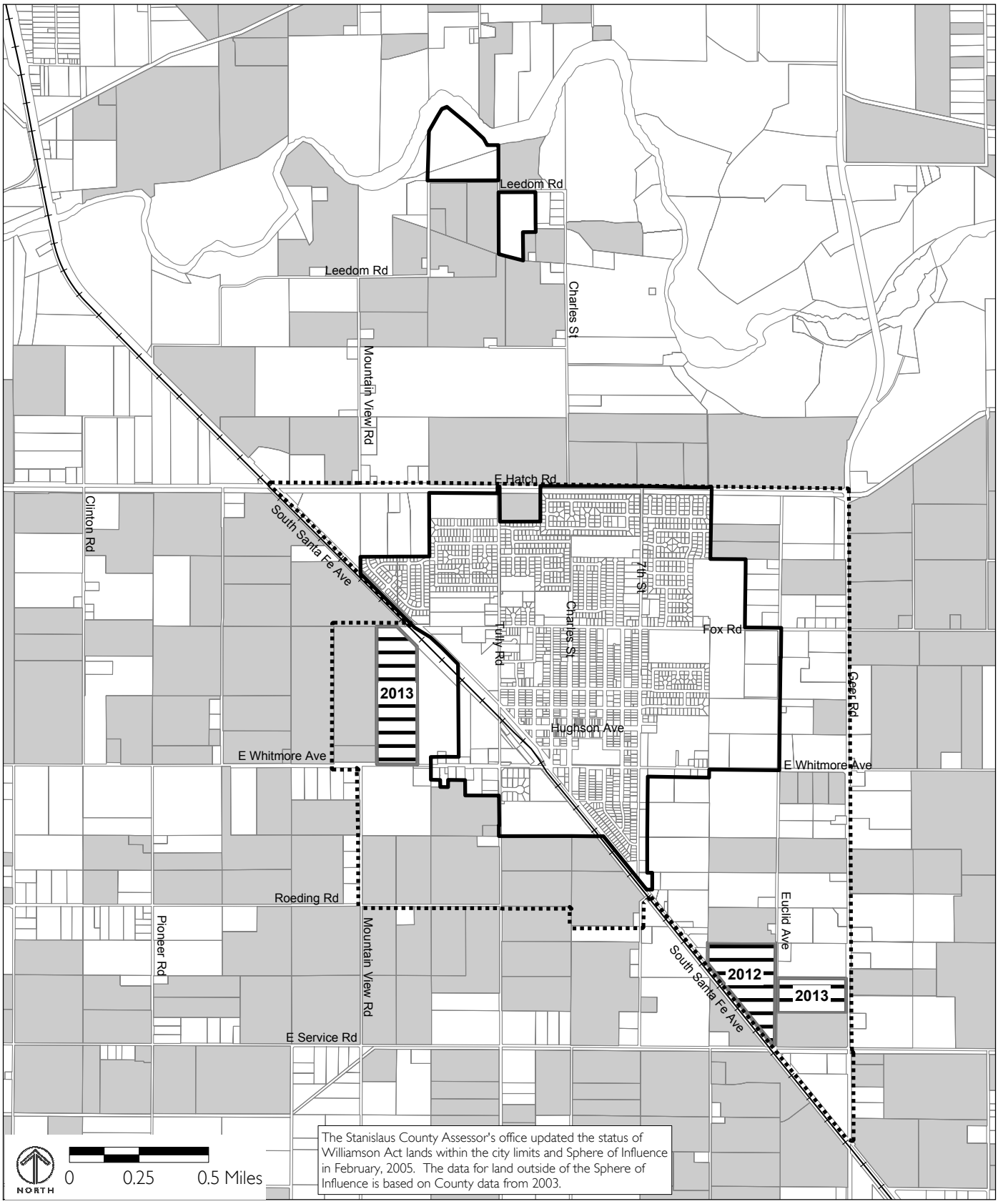
c. Williamson Act Contracts

The Hughson SOI and Planning Area also include many properties under Williamson Act contracts, which place development restrictions on parcels to preserve the land in agricultural use for at least ten years, in exchange for tax benefits to the land owner. According to Stanislaus County records, as of 2005, there is no agricultural land within the Hughson city limits subject to Williamson Act contracts, while there are approximately 480 acres within the SOI subject to Williamson Act contracts. Three parcels currently under Williamson Act contracts have filed for non-renewal and will expire between 2012 and 2013. Table 4.2-1 details these acreages and Figure 4.2-1 shows the locations of all Williamson Act lands.

d. Other Farmland Protection Programs

As the loss of agricultural lands is a regional problem in the Central Valley, there has been some efforts made on a region-wide level to minimize this loss. In 2004, a joint regional land trust was formed between the Counties of Stanislaus, Merced, Sacramento and San Joaquin, in order to expand agricultural preservation capacities by consolidating resources and expertise into a single effort. With support from the Great Valley Center, the Merced County Farmland and Open Space Trust, the Sacramento Valley Ag Land Conservancy, the Stanislaus Farmland Trust and the San Joaquin Farmland Trust Steering Committee merged into the Central Valley Farmland Trust. The organization works on preserving working agricultural landscapes throughout the four-county area through various programs and financing mechanisms, and has a Board of Directors comprised primarily of growers and agricultural property owners.[5]

[5] California Farmland Conservancy Program. Spring 2004. Focus on Farmland, Volume 2 Number 4. http://www.consrv.ca.gov/DLRP/cfcp/Documents/FocusonFarmland_Vol2/Focus_on_Farmland_2-4.pdf



Data Source: Stanislaus County GIS (2000); Stanislaus County Assessor (2005).

FIGURE 4.2-1

Williamson Act: active contract

Williamson Act: in non-renewal (and expiration year)

City Limits

Sphere Of Influence

WILLIAMSON ACT LANDS

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TABLE 4.2-1 **WILLIAMSON ACT LANDS (IN ACRES)**

Williamson Act Category	City Limits	SOI
Active Contract	0	382
In Non-renewal	0	98
Total	0	480

Source: Stanislaus County Assessor's Office, February 2005.

At the present time, Hughson has not adopted a right-to-farm ordinance or other programs to directly address the impacts faced by agricultural lands due to local growth pressures.

2. Existing Conditions

Agriculture is a major activity within the undeveloped portions of Hughson's SOI, Planning Area and throughout Stanislaus County, as well as most of California's Central Valley. The industry has been an important component of the local economy throughout the area's history and currently Stanislaus County is the top seventh agricultural county in the state. Farmers grow everything from apricots to walnuts, with milk, almonds and chickens leading the county in gross farm revenue. Including related industries, from canning to trucking, agriculture represents over $1.3 billion gross dollars and one-third of the County's jobs.[6]

Working and non-working agricultural lands for row crops, orchards, grazing, dairy farms, single-family homes on large agricultural parcels, and agriculturally-related commercial and industrial uses currently surround the City. These lands also comprise the majority of the City's open space resources, which are a noted visual asset in the region and a critical element of its community character.

In 2002, there were 7,998 acres of land identified as Prime Farmland, Unique Farmland and Farmland of Statewide Importance in the Hughson Planning Area,

[6] Stanislaus County Farm Bureau website, accessed May 6, 2005. http://www.connectingstanislaus.com/default.asp?languageID=1&pgID=40

SOI and city limits combined. Definitions of each type of farmland are presented in Table 4.2-2. Since the 2002 survey, some agricultural land may have been converted to urban uses. But, at the time, there were 169 acres in the city limits, 1,001 in the SOI and 6,659 in the Planning Area,[7] outside of the SOI, as shown in Table 4.2-3 and depicted in Figure 4.2-2.

B. Standards of Significance

The proposed project would have a significant impact on agricultural resources if it would:

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

[7] State of California, Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, 2002.

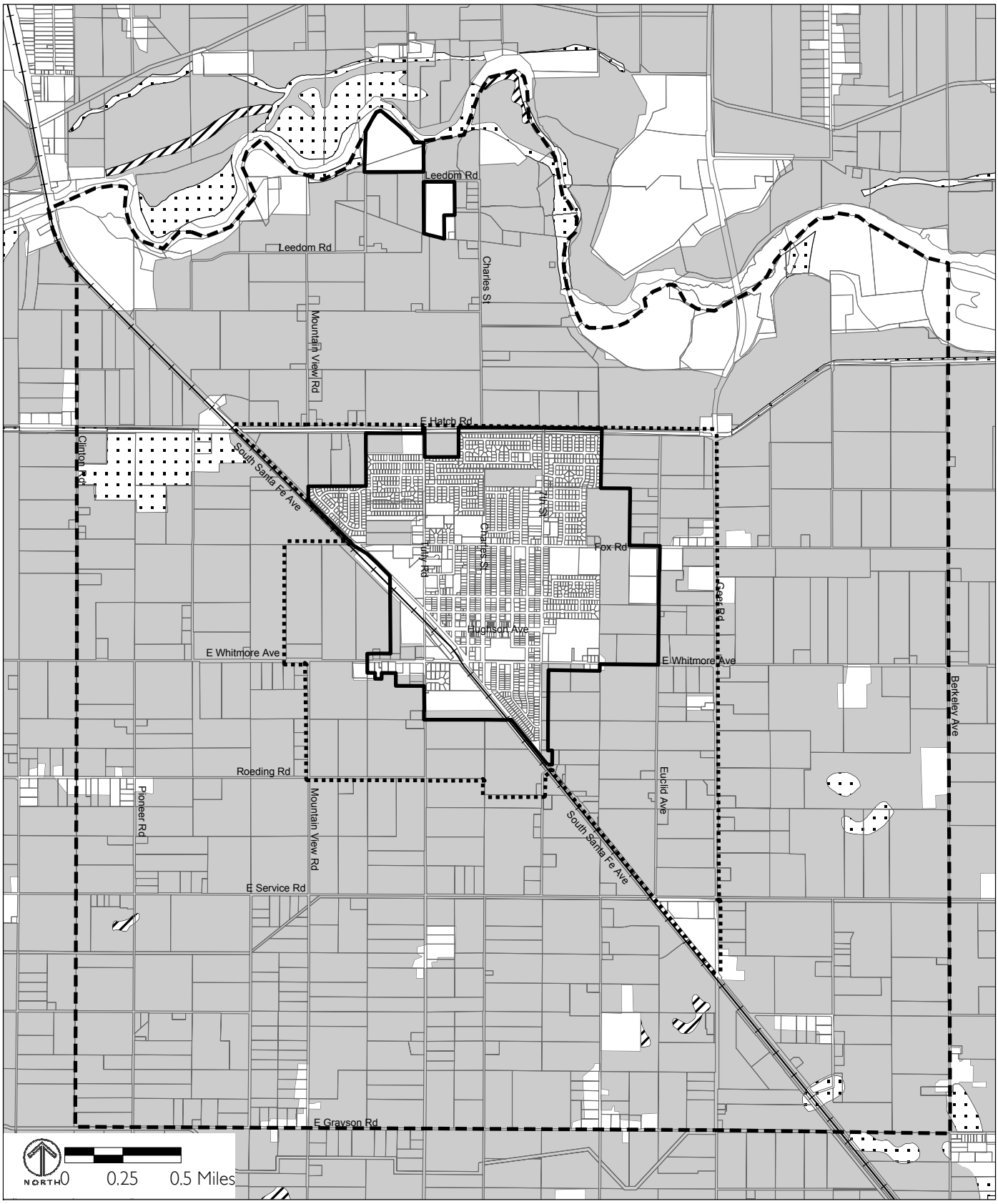
TABLE 4.2-2 **DEFINITIONS OF FARMLAND QUALITY TERMS**

Name	Description
Prime Farmland	Land which has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods. Prime Farmland must have been used for the production of irrigated crops within the last three years
Farmland of Statewide Importance	Land other than Prime Farmland which has a good combination of physical and chemical characteristics for the production of crops. It must have been used for the production of irrigated crops within the last three years.
Unique Farmland	Land which does not meet the criteria for Prime Farmland or Farmland of Statewide Importance that is currently used for the production of specific high economic value crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. Examples of such crops may include oranges, olives, avocados, rice, grapes and cut flowers.
Farmland of Local Importance	Land other than Prime Farmland, Farmland of Statewide Importance or Unique Farmland that is either currently producing crops or that has the capability of production. This land may be important to the local economy due to its productivity.

TABLE 4.2-3 **FARMLAND IN THE PLANNING AREA (IN ACRES)**

Farmland Type	City Limits	Sphere of Influence	Planning Area	Total
Prime Farmland	163	990	6,614	7,767
Farmland of Statewide Importance	0	0	17	17
Unique Farmland	6	11	184	201
Farmland of Local Importance	0	0	13	13
Total	**169**	**1,001**	**6,659**	**7,998**

Source: State of California, Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, 2002.



Data Source: California Department of Conservation, Farmland and Monitoring Program, 2001.
Note that recently-urbanized areas within the city limits have been removed from farmland data layer.

FIGURE 4.2-2

Prime Farmland
Farmland of Statewide Importance
Unique Farmland
Urban, Built Up, Other Land

City Limits
Sphere Of Influence
Planning Area

IMPORTANT FARMLAND

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C. Impact Discussion

Based on input from the community and City staff, the 2005 General Plan was designed to guide future growth in a way that preserves agricultural lands not targeted for urban uses and discourages premature conversions. The first priority stated in the Land Use Element is to preserve the City's small-town character and agricultural heritage (Goal LU-1). The Plan also outlines policies directing the City to cooperate with the County and nearby cities to limit urban growth and preserve permanent agricultural community separators between each urban center. The following discussion provides an analysis of each of the required CEQA thresholds for potential impacts to agricultural resources based on implementation of the 2005 General Plan.

1. Conversion of Farmland

Farmlands face various degrees of development pressure depending on their proximity to the Hughson urban area. The 2005 General Plan therefore outlines a range of policies to address the specific issues faced by agricultural lands existing within the city limits and beyond.

a. City Limits and SOI

All of the land within Hughson's borders is designated in the 2005 General Plan for urban uses, as it is currently in the 1984 General Plan. Nevertheless, as agricultural uses currently exist on several parcels within the city limits, development permitted under the 2005 General Plan could result in the conversion of agricultural land to urban uses. Furthermore, the 2005 General Plan extends the SOI from its current boundary and likewise designates the majority of this area for future urban development, except for a 297-acre agricultural buffer between Geer Road and Euclid Avenue, and Hatch Road and Service Road. Most of the farmland that would be converted to urban uses in the city limits and SOI is designated by the California Department of Conservation as Prime Farmland and Unique Farmland.

The Plan recognizes the importance of mitigating adverse impacts to agricultural resources to the extent feasible, and therefore includes numerous policies to ad-

dress the loss of agricultural resources. Firstly, under the 2005 General Plan the City would phase development and ensure an appropriate rate of growth by focusing growth from 2005 through 2015 into the Primary SOI. A priority would also be given to infilling of older sections of the city for residential uses by allowing modifications in setbacks and lot sizes (Policy LU-1.1). Secondly, the City would also encourage property owners outside of the city limits and within the SOI to maintain their land in agricultural production until the land is converted to urban uses (Policy COS-1.1). Finally, the City would also work cooperatively with land trusts and other non-profit organizations to preserve agricultural land in the region (Policy COS-1.6), which may include the use of conservation easements.

b. Transition Areas

The City of Hughson would also work with Stanislaus County and surrounding jurisdictions on joint efforts to preserve the agriculture and open space lands between the cities. In this vein, the City would support Stanislaus County in its efforts to maintain agricultural lands in viable farming units for those areas not currently designated for urban uses (Policy COS-1.3).

In addition, the 2005 General Plan designates a buffer of agricultural lands along its eastern edge to create an urban boundary to the east. The primary use allowed in the agricultural buffer area is agriculture. Additional uses that are allowed to a restricted extent include dwelling units, limited agricultural-related commercial services, and agricultural-related light industrial uses. The maximum density allowable for dwelling units is between 0 to 2.0 dwelling units per 40 gross acres, while maximum allowable intensity for commercial and light industrial uses is a FAR of 0.3. Commercial and industrial uses require a conditional use permit. In conjunction with the new Agriculture General Plan designation, the City has outlined an action item to revise its Zoning Code to incorporate a new zoning district consistent with this Agriculture designation.

The buffer area also provides the City with some control over future proposed County development in the buffer area so that is occurs in an orderly and controlled manner. This is especially important since much of the buffer area is not

subject to Williamson Act contracts, and therefore, has the potential to convert to urban uses. Hughson would also discourage any County proposals within the Hughson Planning Area that involve the development of urban uses on land designated as Agriculture outside of the City's SOI (Policy COS-1.4).

However, even with the policies and agricultural buffer included in the 2005 General Plan, impacts to Prime Farmland due to permitted development and conversion to urban uses permitted under the 2005 General Plan would be significant and unavoidable since adoption and implementation of the 2005 General Plan would allow for the eventual conversion of important farmland to urban uses.

2. Existing General Plan Designations and Zoning

The following describes the relationship between land use designations proposed in the 2005 General Plan and the associated zoning with existing land use designations and zoning in Hughson and surrounding unincorporated County land.

a. Hughson City Limits

As mentioned above, none of the land within the city limits is currently designated in the 1984 Hughson General Plan as Agriculture or zoned for agricultural use under the City's Zoning Ordinance. Therefore, none of the land use designations proposed within the city limits under the 2005 General Plan would result in a conflict with existing City zoning for agricultural use.

b. Unincorporated County Land

As discussed previously, much of the proposed SOI is designated in the County General Plan for Agriculture and zoned for agricultural uses by the County. Urban development would only occur on agricultural lands within the proposed SOI once they have been annexed into the City. Therefore, although the land designations shown in the 2005 General Plan on these parcels currently conflict with the existing County zoning, once they are annexed, these same parcels would be subject to Hughson zoning requirements instead. The 2005 General Plan also includes a policy to encourage the County to redesignate all the land within the proposed SOI as Urban Transition, which would be consistent with the 2005 General Plan (Action LU-1.2). However, until the County redesignates land from

agricultural uses to urban uses, or the City annexes land and rezones it for urban uses, there would be a significant and unavoidable impact.

3. Williamson Act Contracts

Development permitted under the 2005 General Plan would also direct urban uses to lands currently held in active Williamson Act contracts. Of the parcels holding active Williamson Act contracts in the SOI, six fall into the designated agricultural buffer with the remaining parcels in areas designated in the 2005 General Plan for urban uses. Of the three parcels that have filed for non-renewal, one is designated in the 2005 General Plan for future residential uses and one for industrial, while the third is located within the agricultural buffer so is anticipated to remain undeveloped.

Because the 2005 General Plan directs new growth into areas with active Williamson Act contracts, there would be potentially significant impacts to these contracts. Although land owners are not obligated to file for non-renewal of Williamson Act contracts or early cancellation under the 2005 General Plan, they may be more encouraged to do so in anticipation of urban growth; especially if existing agriculture land is designated within the 2005 General Plan for urban uses. This could result in significant impacts to agriculture resources.

To mitigate conflicts with Williamson Act contracts, the 2005 General Plan states that the City should endeavor to direct new growth away from areas established as Prime Farmland and/or under Williamson Act contracts, and discourage the premature conversion of agricultural land to urban uses (Policy COS-1.2). A second policy states that Hughson would support the application and renewal of Williamson Act contracts or other conservation easements for areas outside of the City's Sphere of Influence (Policy COS-1.5).

However, despite the above-mentioned policies contained in the 2005 General Plan, its implementation would result in significant and unavoidable impacts to agricultural resources as a result of conflicts with existing Williamson Act contracts.

4. Compatibility with Urban Uses

Due to the nature of the urban development proposed under the 2005 General Plan, implementation of the Plan could result in adverse impacts to agricultural resources as a result of the conflicts that may occur between farmland and non-agricultural uses making farming more difficult or costly. These changes could encourage farmers to take their land out of agricultural production. For example, new residents may complain about noise, dust and odors that are often unavoidable, and increase restrictions on agriculture processes that lower productivity. Urban uses may also increase run-off and air pollution from additional impervious surfaces and automobile traffic that would negatively impact agricultural crops. In addition, urban activities may also negatively affect nearby agricultural uses with increased vandalism and the introduction of domestic animals that may disturb certain agricultural activities. Finally, the development of urban uses may drive the potential value of adjacent properties up, thereby increasing property taxes for surrounding farmland not protected by Williamson Act contracts.

In order to mitigate these potential impacts to the extent feasible, the 2005 General Plan contains policies for addressing the need to identify, preserve and protect its agricultural resources while providing a framework for growth (Goal COS-1). Therefore, the Plan outlines a specific policy to reduce conflicts between agriculture and urban uses (Policy COS-1.7), and requires that development projects include sufficient buffer zones within site designs, such as roads, setbacks and other physical boundaries, between these disparate uses (Action COS-1.2). In addition, Action COS-1.3 directs the City to consider adopting a Right-to-Farm Ordinance to require new development adjacent to agricultural land to include deed restrictions recognizing the right to farm on neighboring parcels currently under agricultural production.

The 2005 General Plan also contains policies that encourage the City to support Stanislaus County's efforts in agriculture conservation, including the support of Williamson Act contracts. Policy COS 1.1 and Policy LU-1.3 commit the City to work with the County, surrounding jurisdictions and farmland preservation organizations to ensure that urban development occurs only in areas adjacent to existing urbanized areas (by creating a county-wide policy to limit urban growth

in this way) and to develop a countywide program to permanently preserve agricultural community separators between urban areas, and Action LU-1.3 outlines specific guidelines for a future separator program.

Although the 2005 General Plan includes policies and actions to reduce to the extent feasible the potential impacts resulting from the development of urban uses adjacent to agricultural uses, the continued urbanization of the Hughson area as allowed under the 2005 General Plan would still result in a significant and unavoidable impact to agricultural resources due to the resulting pressures to convert farmland to non-agricultural uses.

D. Cumulative Impact Discussion

With the buildout of the 2005 General Plan there would be a loss of all of the existing agricultural lands within the city limits and SOI, except for the 297-acre agricultural buffer. While the 2005 General Plan includes policies to minimize this impact, there would still be a project level significant, unavoidable impact. The loss of agricultural land within Hughson and the SOI as a result of urban development is part of an overall trend within Stanislaus County. The 2005 General Plan does include several policies and actions, including Policy COS-1.4, COS-1.6 and Action COS-1.1 stating that the City will work at a regional level to control the conversion of agricultural uses. However, since the County is projected to continue to urbanize at a significant rate, the loss of agricultural lands as a result of the 2005 General Plan would contribute to a significant unavoidable cumulative impact to agricultural resources.

E. Impacts and Mitigation Measures

Impact AG-1: While mitigated to the extent feasible, development permitted under the implementation of the 2005 General Plan would result in a significant unavoidable impact related to the conversion of Prime Farmland, Unique Farm-

land, or Farmland of Statewide Importance as these lands are converted to urban uses.

Impact AG-2: While mitigated to the extent feasible, implementation of the 2005 General Plan would result in a significant unavoidable impact to agricultural resources since the 2005 General Plan would allow urban uses on areas in the SOI which are currently zoned by the County for agricultural use and or under active Williamson Act contracts.

Impact AG-3: While mitigated to the extent feasible, implementation of the 2005 General Plan would result in incompatible urban uses being developed adjacent to agricultural uses, which could result in conversion of farmland to non-agricultural use and a significant unavoidable impact to these resources.

Impact AG-4: Cumulative development in Hughson and its SOI would contribute to the ongoing loss of agricultural lands in the region. This cumulative impact would be considered significant and unavoidable.

4.3 AIR QUALITY

This section describes the impacts of the 2005 General Plan on local and regional air quality, based on the assessment guidelines of the San Joaquin Valley Air Pollution Control District (SJVAPCD). This section describes existing air quality, construction-related impacts, direct and indirect emissions associated with the 2005 General Plan, the local and regional impacts of these emissions, and mitigation measures warranted to reduce or eliminate any identified significant impacts. The air quality analysis for this section was prepared by Illingworth & Rodkin.

A. Existing Setting

The following describes the existing regulatory and physical environment with regard to air quality in Hughson.

1. Regulatory Setting

Air quality in the Hughson area is subject to federal, State and local regulations for regulated pollutants, and the guidance of associated regulatory bodies, as discussed below.

The Federal Clean Air Act (federal CAA) governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act (California CAA). At the federal level, the United States Environmental Protection Agency (EPA) administers the federal CAA. The California CAA is administered by the California Air Resources Board (CARB) at the State level and by the Air Quality Management Districts at the regional and local levels. The SJVAPCD regulates air quality at the regional level, which includes the eight-county San Joaquin Valley, from San Joaquin County in the north to Kern County in the south.

Air quality management responsibilities exist at local, State and federal levels of government. Air quality management planning programs developed during the past decade have generally been in response to requirements estab-

lished by the federal CAA. However, the enactment of the California CAA has produced additional changes in the structure and administration of air quality management programs in the State.

a. Federal Regulations

The EPA is responsible for implementing the federal CAA, which passed in 1970 and was last amended in 1990 to form the basis for the national air pollution control effort. The CAA requires that the EPA establish National Ambient Air Quality Standards (NAAQS) and reassess, at least every five years, whether adopted standards are adequate to protect public health based on current scientific evidence. The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the nation's citizens.

In November 1990, Congress amended the federal CAA to intensify air pollution control efforts across the nation. The amended federal CAA identifies specific emission reduction goals, requires both a demonstration of reasonable further progress and attainment, and incorporates more stringent sanctions for failure to attain the NAAQS or to meet interim attainment milestones.

b. State Regulations

The California CAA was signed into law on September 30, 1988, and through its many requirements, serves as an important consideration in attainment planning efforts. CARB is responsible for ensuring implementation of the California CAA, responding to the federal CAA, and for regulating emissions from motor vehicles and consumer products.

CARB sets air quality standards for the State at levels intended to protect public health and welfare with an adequate margin of safety. The California Ambient Air Quality Standards (CAAQS) are generally more stringent than the national standards. Air quality is considered in "attainment" if pollutant levels are continuously below or equal to the standards, and exceed them no more than once each year.

The California CAA requires that air districts prepare an air quality attainment plan if the District violates State air quality standards ozone. No locally-prepared attainment plans are required for areas that violate the state PM_{10} (course particulate matter) standards. The California CAA requires that the State air quality standards be met as expeditiously as practicable, but does not set precise attainment deadlines. Instead, the act establishes increasingly stringent requirements for areas that will require more time to achieve the standards.

The air quality attainment plan requirements established by the California CAA are based on the severity of air pollution problems caused by locally-generated emissions. Upwind air pollution control districts are also required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts.

c. San Joaquin Valley Air Pollution Control District

The SJVAPCD is responsible for local air quality regulation. The SJVAPCD's primary responsibility is to regulate stationary sources and develop plans to achieve and maintain air quality standards. To protect public health the SJVAPCD has adopted plans to achieve ambient air quality standards. The SJVAPCD must continuously monitor its progress for plan implementation and report this effort regularly to the CARB and the EPA. It must also periodically revise its attainment plans to reflect new conditions and requirements. The SJVAPCD tries to exercise a uniform emission control effort that will bring the entire region into compliance with State and federal standards as quickly as possible.

The SJVAPCD has plans in place to regulate both ozone and particulate matter, the pollutants for which the area has been designated as a non-attainment. The District also maintains a series of Air Quality Guidelines for General Plans to which local jurisdictions should adhere in the preparation of the General Plan and updates to it. Each of these are described below.

i. Ozone (O_3)

The San Joaquin Valley suffers from high levels of ground-level ozone, which can lead to serious health effects such as asthma. In addition, it can be harmful to crops. As a result, the area has been designated by the EPA as a severe nonattainment area. In response, the SJVAPCD has prepared several plans since 1994 to address attainment of both the federal and State O_3 standards. The Amended 2002-2005 Rate of Progress Plan is the latest plan submitted that addressed the federal one-hour O_3 standard. However, the EPA rejected the plan, and at the State's request, has proposed to reclassify the area as an extreme nonattainment area and has required the SJVAPCD to submit an extreme ozone nonattainment area plan. Without the redesignation, the EPA would have to subject the region to a federally-imposed control plan. The latest plan addressing the State O_3 standard is the 2000 Triennial Update. All of these plans include strategies for reducing the emissions of O_3 precursor pollutants.

ii. Particulate Matter

Occasionally, monitors in the Hughson area exceed the national PM_{10} (course particulate matter) standard. As a result, the EPA has designated the area as a nonattainment area. Human generated PM_{10} is generally caused by vehicle exhaust, dust from roadways, and dust and smoke from agricultural activities. The 2003 PM_{10} Plan (PM_{10} Plan) is the SJVAPCD's strategy for achieving the National Ambient Air Quality Standards for particulate matter measuring less than 10 microns in diameter (PM_{10}). The PM_{10} Plan is designed to meet the requirements of the federal CAA and contains measures needed to attain the federal PM_{10} standard at the earliest possible date. The Plan will become part of the State Implementation Plan for the San Joaquin Valley.

iii. General Plan Guidelines

In addition to these plans, the SJVAPCD also works with cities and counties to develop General Plans that will help create better air quality in the future. To this end, the SJVAPCD prepared the Air Quality Guidelines for General Plans that sets forth 77 goals, policies and implementation strategies for air quality. The Guidelines emphasize a comprehensive approach to air quality

planning that would reach the entire community, integrating land use planning in support of alternative transportation, programs that reduce congestion and vehicle use, review of project and cumulative air quality impacts under CEQA, reducing exposure to toxic air pollutants, and reducing emissions from energy consumption and area sources, including water heaters, woodstoves, fireplaces and barbecues.

2. Air Pollutants and Ambient Air Quality Standards

Federal and State of California ambient air quality standards for important pollutants are summarized in Table 4.3-1. The table also summarizes some of the health and atmospheric effects of these pollutants, and their major sources. The federal and State ambient standards were developed independently with differing purposes and methods, although both processes shared the goal of avoiding health related effects. As a result, the federal and State standards differ in some cases. In general, the State standards are more stringent, particularly for ozone and particulate matter ($PM_{2.5}$ and PM_{10}) pollutants.

The State of California regularly reviews scientific literature regarding the health effects of exposure to particulate matter and other pollutants. On July 5, 2003, the CARB adopted new standards for particulate matter, lowering the level of the annual standard for PM_{10} and establishing a new annual standard for $PM_{2.5}$ (particulate matter 2.5 micrometers in diameter and smaller).

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

TABLE 4.3-1 **AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS**

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone (O_3)	1 hour	0.09 ppm	0.12 ppm	Irritation and possibly permanent lung damage.	Motor vehicles, including refining and gasoline delivery.
	8 hours	0.07 ppm	0.08 ppm		
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Deprives body of oxygen in the blood. Causes headaches and worsens respiratory problems.	Primarily gasoline-powered internal combustion engines.
	8 hours	9 ppm	9.0 ppm		
Nitrogen Dioxide (NO_2)	Annual Average	---	0.05 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum-refining, power plants, aircraft, ships and railroads.
	1 hour	0.25 ppm	---		
Sulfur Dioxide (SO_2)	Annual Average	---	0.03 ppm	Irritates and may permanently injure respiratory tract and lungs. Can damage plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants and metal processing.
	1 hour	0.25 ppm	---		
	24 hours	0.04 ppm	0.14 ppm		
Suspended Particulate Matter (PM_{10} $PM_{2.5}$)	24 hours	50 ug/m^3 (PM_{10})	150 ug/m^3 (PM_{10}) 65 ug/m^3 ($PM_{2.5}$)	May irritate eyes and respiratory tract, decrease lung capacity, cause cancer and increased mortality. Produces haze and limits visibility.	Industrial and agricultural operations, combustion, wood smoke, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).
	Annual Arithmetic Mean	20 ug/m^3 (PM_{10}) 12 ug/m^3 ($PM_{2.5}$)	50 ug/m^3 (PM_{10}) 15 ug/m^3 ($PM_{2.5}$)		
Lead	Monthly	1.5 ug/m^3	---	Disturbs gastrointestinal system, and causes anemia, kidney disease and neuromuscular and neurologic dysfunction (in severe cases).	Present sources include: lead smelters, battery manufacturing & recycling facilities. Past sources include: combustion of leaded gasoline.
	Quarterly	---	1.5 ug/m^3		

Note: ppm = parts per million; ug/m3 = micrograms per cubic meter.
Source: California Air Resources Board, January 9, 2003

3. Existing Air Quality Conditions

Hughson is located in the San Joaquin Valley Air Basin, which is about 35 miles wide and 250 miles long. Surrounded by mountain ranges, the air basin drains to the north, with an opening at the Carquinez Strait leading into San Francisco Bay and then to the Pacific.

a. Climate and Topography

Relatively wet winters and dry summers characterize the Hughson region's inland Mediterranean-type climate. The local climate is temperate, with an average annual high of about 75 degrees and an average low of 45 to 50 degrees. Rainfall totals can vary widely over a short distance, with windward mountain areas west of Hughson averaging over 20 inches of rain, and shadow areas like the city averaging about 10 to 12 inches annually. During stormy periods, horizontal and vertical air movement ensures rapid pollutant dispersal. Rain also washes out particulate and other pollutants. Conversely, during calm periods, pollutant levels can build up to unhealthy levels.

Normally, air temperatures decrease with increasing elevations. Sometimes this normal pattern is inverted, with warm air aloft, and cooler air trapped near the earth's surface. This atmospheric condition occurs in all seasons. In summer, especially when wind speeds are very low, a strong inversion will trap air emissions near the surface allowing high levels of ozone smog to develop. Winds from March to November typically blow from the northwest near Hughson. During winter months, winds are generally light and variable as colder air from surrounding mountains flows down into the valley floor and then out toward the Delta. These persistent inversions can trap emissions of particulate matter (e.g., woodsmoke) and carbon monoxide near the surface, resulting in unhealthful air quality.

The potential for serious summer air pollution in the San Joaquin Valley is strong because of high surface temperatures, plentiful sunshine, relatively stable air and mountains that trap emissions. In winter, low rainfall, strong inversions and weak winds allow emissions to build up to high levels. In the Hughson area, local pollution sources are augmented by emissions trans-

ported from upwind sources. Conversely, air pollutant emissions created in Hughson can be transported toward other communities by the wind, and contribute to unhealthful levels in those areas. Hence, controlling air pollution requires both local and regional efforts, and unified programs to achieve clean air.

b. Current Air Quality Conditions

Air quality in the San Joaquin Valley Air Basin is consistently monitored to alert the public of unhealthy air pollutant levels and allow for appropriate planning to address basin specific air quality issues. The following provides a summary of existing air quality conditions in the Hughson area.

i. Criteria Pollutants

Ambient air quality is affected by the rate and concentration of pollutant emissions and meteorological conditions. Factors such as wind speed, atmospheric stability and mixing height all affect the atmosphere's ability to mix and disperse pollutants. Long-term variations in air quality typically result from changes in emissions, while short-term variations result from changes in atmospheric conditions. There are several continuous air monitoring stations operated by government agencies in the Hughson area. Measured air pollutant data indicate that ground-level ozone, PM_{10}, and $PM_{2.5}$ are the air pollutants of greatest concern because they are most prevalent in the basin and can lead to adverse health effects at the elevated concentrations measured in the San Joaquin Valley.

The CARB measures ambient air quality concentrations at two locations in Stanislaus County. The monitoring stations in Modesto and Turlock are generally representative of regional air quality conditions (i.e., ozone levels) in this part of the San Joaquin Valley. Because of the rural nature of Hughson, the monitor at Turlock is more representative for localized air pollutants (particulate matter and carbon monoxide). Ambient air pollution data typically receives great scrutiny and quality assurance testing, so recent data is not available.

During the past five years, the State one-hour ozone standard was exceeded from nine to 31 days per year in Turlock. Modesto, had fewer exceedences, with two to 14 days per year. While Turlock had higher concentrations, both stations exceeded the federal one-hour standard up to one day per year. The federal 8-hour standard was exceeded four to 25 days per year in Turlock and between zero to seven days per year in Modesto. Reasons for higher ozone levels in Turlock are related to the complex conditions that result in ozone formation. Also, emissions from the City of Modesto lead to higher concentrations downwind where Turlock and Hughson are located.

State PM_{10} standards have been exceeded over 60 times a year. Federal $PM_{2.5}$ daily standards have been exceeded from three to five times a year. Although the San Joaquin Valley Air Basin is not in attainment for PM_{10}, the situation with regard to this pollutant is improving. The Air Basin exceeded the 24-hour federal standard on more than 55 days in 1990; but by 2001, this figure had dropped to 12 days, and to one exceedence in 2002. If the District does not have any exceedences for the remainder of 2005, the District will be in attainment of the 24-hour federal standard.

The Hughson area experiences concentrations of fine particulate matter ($PM_{2.5}$) that exceed the National Ambient Air Quality Standards on an estimated 18 to 30 days per year. $PM_{2.5}$ is mainly caused by fuel combustion from automobiles, agricultural burning, industrial processes, and diesel powered vehicles such as buses and trucks. The EPA recently designated all of Stanislaus County as nonattainment for the national $PM_{2.5}$ standard. Plans for $PM_{2.5}$ could be due to EPA in 2006.

The more stringent California Ambient Air Quality Standard for PM_{10} is exceeded on an estimated 50 to 75 days per year. Standards for all other criteria pollutants were not exceeded in the five-year period.

The CARB publishes an almanac each year that evaluates air quality trends statewide. It also makes forecasts about future pollution levels. According to the CARB, emission sources for ozone precursors in the San Joaquin Valley

are from both motor vehicles and industry, with oil fields at the south end of the valley producing high NOx levels. Agriculture, fugitive dust from paved and unpaved roads, and waste burning all contribute to high background levels of PM_{10}.

From 1981 to 2000 the Central Valley's population increased 56 percent while Vehicle Miles Traveled (VMT) increased 136 percent. Much of this increase is due to the way communities are designed, as well as housing pricing that encourages long commutes. In spite of this dramatic increase in vehicle travel, controls on stationary and mobile sources improved ozone air quality by about 12 percent. Likewise, control measures have reduced PM_{10} levels by about 32 percent. Nonetheless, the San Joaquin Valley still has some of the worst air pollution in the nation.

ii. Attainment Status

As is shown in Table 4.3-2, the region does not meet federal standards for ground level ozone and fine particulate matter. The EPA is proposing to grant a request by the State to voluntarily reclassify the region (under the federal CAA) from a severe to an extreme 1-hour ozone nonattainment area. Under this action, the EPA is also proposing that the State submit an extreme ozone nonattainment area plan. Reclassification will stop the sanctions and federal implementation plan clocks that were started when the EPA made a finding that the State failed to submit the statutorily required severe area attainment demonstration plan.

TABLE 4.3-2 **ATTAINMENT OF AMBIENT AIR QUALITY STANDARDS IN STANISLAUS COUNTY**

Pollutant	Federal Designation	State Designation
Ozone - one hour	Nonattainment/Severe*	Nonattainment/ Severe
Ozone - eight hour	Nonattainment/Serious	No classification
$PM_{2.5}$	Nonattainment**	Nonattainment
PM_{10}	Nonattainment	Nonattainment
CO	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified/Attainment	Attainment

*US EPA proposes to reclassify the area as Extreme Nonattainment.
** US EPA recently designated as Nonattainment
Source: California Air Resources Board

B. Standards of Significance

The proposed project would have a significant air quality impact if it would meet the following standards of significance established by the SJVAPCD:[1]

- Conflict with or obstruct implementation of the applicable air quality plan.
- Conflict with the General Plan Guidelines as adopted by the SJVAPCD.
- Create objectionable odors affecting a substantial number of people.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

[1] San Joaquin Valley Unified Air Pollution Control District (SJVAPCD), 1998, *Guidance for Assessing and Mitigating Air Quality Impacts*.

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project is non-attainment under applicable federal or state ambient air quality standards (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.

C. Impact Discussion

The following provides an analysis of the effects of the 2005 General Plan on regional air quality.

1. Consistency with Regional Clean Air Planning Efforts

The following discusses the 2005 General Plan's consistency with the regional clean air planning efforts.

a. Clean Air Planning Population Projections and Assumptions

The population of Hughson and the SOI would increase as a result of development of the land uses allowed under the 2005 General Plan. Based on Hughson's 1984 General Plan, the Stanislaus Council of Governments (StanCOG)'s Projections 2005 forecasts the population of the City of Hughson Planning Area to be 11,431 in 2025. This forecast population is 24 percent smaller than the 2005 General Plan's projected build out population of 15,074. Since the StanCOG projections were used to draft SJVAPCD regional clean air planning efforts, the rate of population growth under the 2005 General Plan would exceed projections used for the regional clean air planning efforts, and would thus be inconsistent with it.

Under the 2005 General Plan, year 2030 projections of VMT associated with development in Hughson would also exceed those assumed by SJVAPCD in the clean air planning efforts. The 2005 General Plan's projected population increase would raise the VMT in the region 0.7% over the assumptions generated by StanCOG and used by SJVAPCD. Table 4.13-3 provides a comparison

between the 2005 General Plan's projected VMT and those using the StanCOG projections.

In addition, the amount of new non-residential uses that could be developed under the 2005 General Plan could substantially increase the number of external vehicle trips from nearby communities to Hughson. External trips are typically longer, which can result in higher air pollutant emissions. At the same time, these new non-residential uses may have the effect of reducing the number of external trips generated by Hughson's residential development for activities such as shopping.

While the regional increases are relatively small when compared with Stanislaus County's total projected mobile source emissions, the fact that they exceed the projections used in the County's clean air planning efforts would nonetheless constitute a significant and unavoidable air quality impact. Clean air planning efforts use StanCOG projections to meet goals of federally required ozone and PM_{10} attainment plans. The State required triennial Clean Air Plan prepared to show progress toward meeting the California ambient air quality standard for ozone also uses these projections. If just the Hughson 2005 General Plan's population exceeded the StanCOG projections, there would be very little effect on future ozone or PM_{10} levels. However, the ability for the area to meet ozone and PM_{10} air quality standards could be compromised if many other communities in and around the San Joaquin Valley exceed population and VMT projections.

The 2005 General Plan includes a number of policies that seek to reduce air pollution and minimize the air quality impacts of new development. The 2005 General Plan focuses on mixed-use land uses that would promote alternative modes of transportation and contains numerous policies and programs that, if adopted and implemented, would act to help reduce motor vehicle use within, which would reduce the rate of vehicle miles traveled from trips generated in Hughson. These policies are listed below under "Consistency with

TABLE 4.13-3 **COMPARISON OF PROJECTED VEHICLE MILES TRAVELED AND CORRESPONDING POLLUTANT EMISSIONS - STANCOG VERSUS 2005 HUGHSON GENERAL PLAN GROWTH PROJECTIONS**

	Projected Amount				
	Base Year 2000	StanCOG Projections	2005 General Plan	Difference	% Difference
VMT (1,000 miles)	10,797	16,993	17,115	+122	> 1%
ROG (Lbs/Day)	20,940	6,480	6,500	+ 20	> 1%
CO(Lbs/Day)	189,220	43,740	43,980	+ 240	> 1%
NOx (Lbs/Day)	39,260	9,320	9,360	+ 40	> 1%
PM10 (Lbs/Day)	1,380	1,620	1,640	+ 20	> 1%

TCMs." The 2005 General Plan also contains other policies that would reduce air pollution associated with energy usage. Policies and Actions under Goal COS-7 in the Conservation and Open Space Element specifically focus on reducing air quality impacts. These include: Policy COS-7.1, to support efforts of the SJVAPCD and other agencies in regional air quality management planning, programs, educational and enforcement measures; Policy COS-7.2, which requires review of proposed projectS for compliance with State and regional air quality standards; and Policies COS 7.3, COS-7.4 and COS-7.5, which require use of SJVAPCD methodology and thresholds for air quality analyses, and adherence to the District's guidelines in implementing construction period pollution control measures. Also, under Action COS-7.3 the City would consider implementing an air quality impact fee program, as recommended by SJVAPCD. Policy COS-7.6 would require any new sources of toxic air pollutants to prepare a Health Risk Assessment where needed, establish appropriate land use buffer zones around areas posing substantial health risks, and Policy COS-7.7 addresses the location of sensitive receptors

away from potential generators of toxic emissions. Other policies under Goal COS-7 call for compact development patterns that minimize vehicle trips (Policy COS-7.8), require installation of non-polluting fireplaces and wood-stoves in new development (Policy COS-7.9), and coordinate land use and transportation planning to minimize pollutant emissions (Policy COS-7.10).

While the various policies outlined above would reduce air pollutant emissions that affect both Hughson and the region, the impact from the 2005 General Plan would be significant, because the population increase under the 2005 General Plan would occur at a greater rate than the projected rate used by StanCOG's projections, then used by SJVAPCD in the regional clean air planning efforts.

b. Consistency with Transportation Control Measures

Table 4.13-4 lists the policies of the 2005 General Plan Update that are supportive of the Transportation Control Measures (TCMs) adopted by SJVAPCD. A description of each TCM is provided along with a listing of relevant 2005 General Plan policies that would implement each measure. The proposed policies support and reasonably implement the SJVAPCD's clean air planning TCMs, and thus would be consistent with these measures. This would be a less-than-significant impact.

c. Buffer Zones for Potential Sources of Odor and Toxic Air Contaminants

SJVAPCD's Air Quality Guidance for General Plans calls for a General Plan to establish appropriate land use buffers around existing and proposed land uses that would be a source of odors and/or toxic air contaminants. Such buffer zones should be established through 2005 General Plan policies, in the General Plan land use map, and in implementing ordinances, such as the Zoning Ordinance.

Hughson does not include any existing odor sources that would affect sensitive land uses that could be developed under the 2005 General Plan. In addition, avoidance of odor-related land use conflicts and protection of existing

TABLE 4.13-4 **2005 GENERAL PLAN CONSISTENCY WITH CLEAN AIR PLANNING TCMS**

Transportation Control Measure	Relevant 2005 General Plan Policies
1. Traffic Flow Improvements	Policy C-1.1 – Hughson will develop a connected street pattern with multiple route options for vehicle, bicycles and pedestrians Policy C-1.2– The City shall strive to maintain a LOS of D on major streets and intersections. The City will strive to maintain this LOS during peak traffic hours, but recognizes that this may not always be feasible due to constraints associated with the built environment. Policy C-1.3– To prevent traffic diversions of local cut-through traffic onto local streets, the City will maximize the carrying capacity of arterials and collector streets by providing a well-coordinated traffic/signal control system, controlling the number of intersections and driveways, and requiring sufficient off-street parking. Policy C-1.6– Local street width shall be limited to the minimum necessary to adequately carry the amount of anticipated traffic and allow for adequate bicycle and pedestrian facilities and emergency access. Policy C-1.9– The City will consider using traffic calming methods to reduce local cut-through traffic, where appropriate. However, gating existing public roadways to exclude traffic from specific residential neighborhoods should not be allowed.
3. Public Transit	Policy C-5.1– The City will continue to support the activities of Stanislaus Regional Transit. Policy C-5.2– Stanislaus Regional Transit will be encouraged to explore the possibility of expanding the transit system to provide additional service between Hughson and major regional employment and commercial areas.
4. Rideshare Program	Policy C-5.3–The City will support ride-share lots and car-pooling, as well as other initiatives aimed at reducing the number of single occupancy vehicles commuting out of Hughson.
5. Park and Ride Lots	Policy C-5.3 - The City will support ride-share lots and car-pooling, as well as other initiatives aimed at reducing the number of single occupancy vehicles commuting out of Hughson.
6. Bicycling Program	Policy C-1.1 - Hughson will develop a connected street pattern with multiple route op-

Transportation Control Measure	Relevant 2005 General Plan Policies
	tions for vehicle, bicycles and pedestrians Policy C-1.6– Local street width shall be limited to the minimum necessary to adequately carry the amount of anticipated traffic and allow for adequate bicycle and pedestrian facilities and emergency access. Policy C-1.11– To create a walkable community that provides pedestrian and bicycle connections, dead-end cul-de-sacs lacking pedestrian and/or bicycle access to adjoining streets or public areas will be discouraged. Policy C-6.1– Safe, attractive and convenient bicycle and pedestrian facilities will be provided to link schools, parks, civic facilities, employment centers, shopping and Downtown, as well as provide a viable alternative to the automobile. Policy C-6.2– The City will explore ways to connect local bicycle and pedestrian routes to larger regional systems, including those established in the Regional Bicycle Action Plan, adopted in 2001 by the StanCOG to implement the Regional Bicycle Transportation Master plan of 1996. Policy C-6.3– The City will work with the Burlington Northern/Santa Fe Railroad to improve railroad crossings to address pedestrian and bicyclist safety. Alternatives such as over and underpasses at major crossings will be explored. Policy C-6.4– New development will be required to provide sidewalks and connections to the community-wide bicycle and pedestrian network.
12. Parking Management	Policy C-4.1– New development outside the Downtown shall provide adequate off-street parking, consistent with the City's municipal code. Policy C-4.4– Consider establishing a Downtown parking district to assist in the area's economic development and maintain the pedestrian focus of the Downtown.
14. Jobs-Housing Balance	Policy LU2-1– The City will encourage a land use mixture that provides a balance or surplus between the generations of public revenues and the cost of providing public services and facilities.
19. Pedestrian Improvements	Policy C-1.1– Hughson will develop a connected street pattern with multiple route options for vehicles, bicycles and pedestrians. Policy C-1.6– Local street width shall be limited to the minimum necessary to adequately carry the amount of anticipated traffic and allow for adequate bicycle and pedes-

Transportation Control Measure	Relevant 2005 General Plan Policies
	trian facilities and emergency access. Policy C-1.11– To create a walkable community that provides pedestrian and bicycle connections, dead-end cul-de-sacs lacking pedestrian and/or bicycle access to adjoining streets or public areas will be discouraged. Policy C-3.1– The City will promote pedestrian activity as one of the primary modes of travel in the Downtown. Policy C-4.4– Consider establishing a Downtown parking district to assist in the area's economic development and maintain the pedestrian focus of the Downtown. Policy C-6.1– Safe, attractive and convenient bicycle and pedestrian facilities will be provided to link schools, parks, civic facilities, employment centers, shopping and Downtown, as well as provide a viable alternative to the automobile. Policy C-6.2– The City will explore ways to connect local bicycle and pedestrian routes to larger regional systems, including those established in the Regional Bicycle Action plan, adopted in 2001 by the StanCOG to implement the Regional Bicycle Transportation Master Plan of 1996. Policy C-6.3– The City will work with the Burlington Northern/Santa Fe Railroad to improve railroad crossings to address pedestrian and bicyclist safety. Alternatives such as over and underpasses at major crossings will be explored. Policy C-6.4– New development will be required to provide sidewalks and connections to the community-wide bicycle and pedestrian network. Policy C-6.5– The City will work to complete gaps in the sidewalk system within developed portions of the community. New funding sources, such as grants, will be identified to help fund the new sidewalk facilities.
21. Land Use	Policy LU-1.1– The City will phase development by focusing growth from 2005 through 2025 into the Primary SOI, as shown in Figure LU-6, to ensure an appropriate rate of growth. A priority will be given to infilling of older sections of the city, as shown in Figure LU-6, for residential uses by allowing modifications in setbacks and lot sizes. Policy LU-1.3– The City will work with the County, surrounding jurisdictions and farmland preservation organizations to ensure that urban development occurs only in areas adjacent to existing urbanized areas and to develop a countywide program to permanently preserve agricultural community separators between urban areas. Policy LU-2.1– The City will encourage a land use mixture that provides a balance or

Transportation Control Measure	Relevant 2005 General Plan Policies
	surplus between the generation of public revenues and the cost of providing public services and facilities.
	Policy LU-2.2– Recognizing that the market will be one force directing growth within the community, the City will give priority to high quality, environmentally-sound projects that will add additional employment and revenue-generating uses.
	Policy LU-2.5– The City will work closely with the County, surrounding jurisdictions and other transportation agencies to obtain needed transportation funding and facilities to support future growth.
	Policy LU-3.1– New development should be compatible with physical site characteristics, surrounding land uses and available public infrastructure.
	Policy LU-3.5– New development should be designed to connect to the existing community, through the orientation and design of buildings and vehicular, pedestrian and bicycle connections.
	Policy LU-5.6– Commercial uses may be located either in the center or at the periphery of neighborhoods, and should be integrated with residential uses and designed to be as accessible and appealing to the pedestrian as possible, in order to encourage walking and biking.
	Policy LU-3.5– New development should be designed to connect to the existing community, through the orientation and design of buildings and vehicular, pedestrian and bicycle connections.
	Policy LU-5.6– Commercial uses may be located either in the center or at the periphery of neighborhoods, and should be integrated with residential uses and designed to be as accessible and appealing to the pedestrian as possible, in order to encourage walking and biking.
	Policy LU-5.7– Neighborhoods should be physically connected to one another via a series of roadways and pedestrian paths, and all residents should be within a short walk or drive of retail and other services.

buffer zones are specifically addressed in Policy COS-7.6 and Policy COS-7.7 of the Conservation and Open Space element, which address localized air quality issues.

There are no major sources of air pollution or toxic air contaminants in Hughson. Since there are no major highways or freeways within Hughson or the SOI, it was determined unnecessary to perform a screening for diesel particulate matter emissions, which can be a major source of toxic air contaminants. The above-referenced 2005 General Plan policies also address the setting of sensitive receptors near mobile sources of toxic air contaminants.

In consideration of the above aspects, the 2005 General Plan would generate a less-than-significant impact with regard to odor sources and toxic air contaminants.

2. Carbon Monoxide Emissions

Carbon monoxide emissions from traffic would be the pollutant of greatest concern at the local level in Hughson and the pollutant with the greatest potential to affect sensitive receptors, such as children. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of carbon monoxide. Since the early 1990s, carbon monoxide levels have been at healthy levels (i.e., below State and federal standards) in the San Joaquin Valley. As a result, the region has been designated as attainment for the standard. There are no ambient air quality stations in Hughson that measure carbon monoxide. The nearest representative station is in Turlock, where the highest measured levels are about one-quarter of the standard.

Carbon monoxide concentrations adjacent to major roadway intersections in Hughson were modeled to assess the impact of traffic on local air quality. The Caline4 model, along with the California Air Resources Board's EMFAC2002 emission factor model, was used to predict impacts from traffic. The modeled concentrations were added to background levels, which were those levels measured in Turlock. Carbon monoxide concentrations were

predicted for current conditions, and future conditions under the existing 1984 General Plan and the 2005 General Plan. As shown in Table 4.13-5, carbon monoxide concentrations are predicted to be below the State ambient air quality standard of 9.0 parts per million. Furthermore, concentrations are anticipated to decrease substantially in the future, while traffic levels increase. This is due to the substantial reductions in tailpipe emissions that are anticipated with turnover of the fleet to newer and cleaner vehicles. As a result, the impact on local air quality resulting from the project is considered to be less-than-significant, and sensitive receptors would not be significantly impacted by carbon monoxide concentrations.

3. Construction Emissions

Under the 2005 General Plan, new construction projects could occur in Hughson, involving activities that are a source of air pollutants. Construction activities such as demolition, grading, construction worker travel to and from project sites, delivery and hauling of construction supplies and debris to and from the project site, and fuel combustion by on-site construction equipment would generate pollutant emissions. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust and other air contaminants. Dust emissions can lead to both nuisance and health impacts.

PM_{10} is the pollutant of greatest concern that is emitted from construction, particularly during site preparation and grading. PM_{10} emissions from construction activity tend to vary daily, depending on factors such as the level of activity, type of construction activity taking place, the equipment being operated, weather conditions and soil conditions. The SJVAPCD Guide for assessing and mitigating air quality impacts has identified a set of feasible PM_{10} control measures for construction activities which, if implemented would reduce impacts for PM_{10} emissions to a less-than-significant level.

TABLE 4.13-5 **PROJECTED 8-HOUR CARBON MONOXIDE LEVELS**

	Carbon Monoxide Concentration	
Location	**Existing (2004)**	**2025 Projected with Buildout of the 2005 General Plan**
Santa Fe Avenue and Hatch Road	4.3 ppm	2.6 ppm
Santa Fe Avenue and Tully Road	3.8 ppm	2.4 ppm
Santa Fe Avenue and Geer Road	3.6 ppm	2.0 ppm
Santa Fe Avenue and 7th Street	4.1 ppm	2.7 ppm
Geer Road and Hatch Road	3.9 ppm	2.2 ppm

Note: California ambient air quality standard for 8-hour carbon monoxide levels is 9.0 ppm. Modeled levels are added to a one-hour background concentration of 2.5 ppm.
Source: Illingworth & Rodkin. June 2005.

In addition to PM_{10}, the SJVAPCD is concerned about exhaust emissions from construction equipment that can affect both regional ozone levels and local air quality. As a result, the SJVAPCD has recommended measures to reduce these emissions which would reduce emissions to a less-than-significant level.

In addition, the SJVAPCD and CARB have regulations that address the handling of hazardous air pollutants such as asbestos, that may be released during demolition activities. SJVAPCD rules and regulations address both the handling and transport of these contaminants. An air toxic control measure adopted by the CARB requires measures to minimize asbestos emissions in areas known to have naturally occurring asbestos. Construction work that is performed in accordance with SJVAPCD and CARB rules and regulations and that implements construction air pollutant control measures recommended by the SJVAPCD would not be expected to result in significant air quality impacts.

Policy COS-7.4 of the 2005 General Plan would require new development projects to adopt a construction-period emissions plan, and require construction emissions control measures recommended by the SJVAPCD. Policy COS-7.5 would require dust control measures, consistent with the District's guidelines, as a condition of approval for subdivision maps, site plans and grading permits. The 2005 General Plan would not otherwise impede the implementation or enforcement of the District's standards and regulations, and so a less-than-significant impact with regard to construction-related emissions would result.

4. Wood Smoke

Wood smoke from new residential fireplaces or wood stoves could emit significant amounts of PM_{10} and $PM_{2.5}$. Such devices in existing residential units in Hughson contribute to significant levels of PM_{10} and $PM_{2.5}$, and future installation of wood-burning appliance could worsen this situation. However, Policy COS-7.9 of the 2005 General Plan requires new residential units to include only clean-burning EPA-certified wood burning devices, pellet-fueled stoves, or natural gas fireplaces. This requirement would reduce any impacts from new development occurring under the 2005 General Plan to a less-than-significant level.

D. Cumulative Impact Discussion

Cumulative noise impacts are considered as part of the project-level analysis since the future traffic projections used for the air quality analysis were generated by a cumulative traffic model. The traffic model considered growth under the 2005 General Plan in conjunction with projected regional growth for Stanislaus County. The comparative increase in air pollution due to the 2005 General Plan was small when compared to the County as a whole. However, since the 2005 General Plan growth assumptions exceed SJVAPCD's regional clean air planning assumptions, and the San Joaquin Valley Air Basin is in non-attainment for several pollutants, the 2005 General Plan would contribute to a significant, unavoidable cumulative air quality impact.

E. Impacts and Mitigation Measures

Impact AIR-1: The 2005 General Plan would not be consistent with applicable air quality plans of the SJVAPCD, since population growth that could occur under the 2005 General Plan would exceed that projected by StanCOG and used in projections for air quality planning. The projected growth would lead to an increase in the region's VMT, beyond that anticipated in the SJVAPCD's clean air planning efforts. The increase in VMT that would occur under the General Plan, relative to that projected by StanCOG, is less than 1 percent.

The 2005 General Plan prioritizes infill of existing neighborhoods and ensures that urban development occur adjacent to existing urbanized areas. It also includes a number of policies to reduce single-occupant vehicle trips and other air pollutant sources. However, because these policies, and the mitigation measure identified above, would not completely mitigate this impact, it is considered significant and unavoidable.

Impact AIR-2: Cumulative development in Hughson and its SOI would contribute to on-going air quality issues in the San Joaquin Valley Air Basin. This cumulative impact would be considered significant and unavoidable.

4.4 BIOLOGICAL RESOURCES

This section summarizes information on biological resources in Hughson and provides an evaluation of the impacts of the proposed 2005 General Plan on these resources. The following discussion was based on a biological resources assessment completed by Environmental Collaborative, and begins with a summary of existing regulations that provide for the protection and conservation of important biological resources.

A. Existing Setting

This section provides a general description of the regulatory setting, and existing biological and wetland resources in and around Hughson, including an overview of the area and summary of potential resources.

A literature review and field reconnaissance was conducted in December 2004 to assess the biological resources in and around Hughson, and identify rare and sensitive species and habitats with the potential to occur in the area. Among resources reviewed was the Conservation/Open Space Element of the Stanislaus County General Plan and the California Natural Diversity Database (CNDDB), maintained by the California Department of Fish and Game. This database tracks the location and condition of California's rare animals, plants and natural habitats.

1. Regulatory Setting

The following describes the State and federal regulations that provide for protection and management of sensitive biological resources in the United States and California.

a. Federal

The federal laws that regulate the treatment of biological resources include the Federal Endangered Species Act, the Migratory Bird Treaty Act and the Clean Water Act. The relevant sections of each are discussed below.

i. Endangered Species Act

The US Fish and Wildlife Service (USFWS) is responsible for implementation of the Federal Endangered Species Act (FESA) (16 U.S.C. section 1531 et seq.). The FESA protects fish and wildlife species that are listed as threatened or endangered, and their habitats. "Endangered" species, subspecies or distinct population segments are those that are in danger of extinction through all or a significant portion of their range, and "threatened" species, subspecies or distinct population segments are likely to become endangered in the near future.

Section 9 of the FESA prohibits the "take" of any fish or wildlife species listed under the FESA as endangered. "Take" of threatened species is also prohibited, unless otherwise authorized by federal regulations. "Take," as defined by the FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct." Harm is defined as "any act that kills or injures the species, including significant habitat modification." Section 9 of the FESA also prohibits removing, digging up, cutting, maliciously damaging or destroying federally-listed plants on sites under federal jurisdiction.

ii. Migratory Bird Treaty Act

The USFWS is also responsible for implementing the Migratory Bird Treaty Act (MBTA) (16 U.S.C. section 703-712 et seq.). The MBTA implements a series of treaties between the United States, Mexico and Canada that provide for the international protection of migratory birds. The law contains no requirement to prove intent to violate any of its provisions. Wording in the MBTA makes it clear that most actions that result in "taking" or possession (permanent or temporary) of a protected species can be a violation of the Act. The word "take" is defined as meaning "pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture or collect." The provisions of the MBTA are nearly absolute; "except as permitted by regulations" is the only exception. Examples of permitted actions that do not violate the law are the possession of a hunting license to pursue specific game birds, legitimate research activities, display in zoological gardens, bird-banding and similar activities.

iii. Clean Water Act

The Clean Water Act is administered by the federal Environmental Protection Agency (EPA) and the US Army Corps of Engineers (Corps). The Corps is responsible for regulating the discharge of fill material into waters of the United States. Waters of the United States include lakes, rivers, streams and their tributaries, as well as wetlands. Wetlands are defined for regulatory purposes as areas "inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."[1]

The discharge of dredged or fill material into waters of the United States is subject to permitting under Section 404 (Discharges of Dredge or Fill Material). Section 401 (Certification) specifies additional requirements for permit review, particularly at the state level. Project proponents must obtain a permit from the Corps for all discharges of dredge or fill material into waters of the United States, including wetlands, before proceeding with a proposed action. Corps permits must be certified by the State Water Resources Control Board in order to be valid.

Certification from the California Regional Water Quality Control Board is also required when a proposed activity may result in discharge into navigable waters, pursuant to Section 401 of the Clean Water Act and EPA 404(b)(1) Guidelines.

b. State

The most relevant State laws regulating biological resources are the California Endangered Species Act, the California Native Plant Protection Act and the California Fish & Game Code, each of which is described below.

[1] Environmental Protection Agency Website, *Wetlands Definition*. Accessed on June 27, 2005. http://www.epa.gov/owow/wetlands/what/definitions.html

i. California Endangered Species Act

The California Department of Fish and Game (CDFG) administers the California Endangered Species Act (CESA), which protects wildlife and plants listed as threatened and endangered by the California Fish and Game Commission. Like the FESA, the CESA provides additional protection to threatened and endangered species in California.[2] CESA requires State agencies to conserve threatened and endangered species (Section 2055), and thus restricts all persons from taking listed species except under certain circumstances. The CESA defines take as any action or attempt to "hunt, pursue, catch, capture, or kill." CDFG may authorize "take" under Section 2081 agreements, except for designated "fully protected species." The requirements for an application for an incidental take permit under CESA are described in Section 2081 of the California Fish and Game Code and in final adopted regulations for implementing Sections 2080 and 2081.

ii. California Fish and Game Code

Under the California Fish and Game Code, the CDFG provides protection from "take" for a variety of species. Species that are designated "fully protected"[3] are protected against direct impacts. Section 5050 lists protected amphibians and reptiles. Eggs and nests of all birds are protected under Section 3503, nesting birds (including raptors and passerines) under Sections 3503.5 and 3513, birds of prey under Section 3503.5, and fully protected birds under Section 3511. All birds that occur naturally in California and are not resident game birds, migratory game birds or fully protected birds are considered non-game birds and are protected under Section 3800. Mammals are protected under Section 4700.

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[2] The State Endangered Species Act does not supersede the federal Endangered Species Act.

[3] Most "fully protected" species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. (http://www.dfg.ca.gov/hcpb/species/t_e_spp/fullypro/fully_pro.shtml)

The CDFG also protects streams, water bodies and riparian corridors through the Streambed Alteration Agreement process under Section 1601 to 1606 of the California Fish and Game Code. Jurisdictional authority of the CDFG over wetland areas is also established under Sections 1601 to 1606. The Fish and Game Code stipulates that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying the Department, incorporating necessary mitigation and obtaining a Streambed Alteration Agreement. CDFG's jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

iii. California Native Plant Protection Act

The California Native Plant Protection Act of 1977 prohibits importation of rare and endangered plants into California, "take" of rare and endangered plants, and sale of rare and endangered plants. CESA defers to the California Native Plant Protection Act, which ensures that state-listed plant species are protected when state agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the California Native Plant Protection Act are not protected under CESA, but rather under CEQA.

The following kinds of activities are exempt from the California Native Plant Protection Act:

- Agricultural operations
- Fire control measures
- Timber harvest operations
- Mining assessment work
- Removal of plants by private landowners on private land for construction of canals, ditches, buildings, roads or other rights-of-way
- Removal of plants for performance of a public service by a public agency or a publicly- or privately-owned public utility.

c. Local

The City does not have an adopted tree preservation ordinance that protects all trees on public and private lands. However, Hughson does have an

adopted Street Tree Ordinance that addresses the removal of trees by new development in the City's Standard Conditions of Approval.

i. Street Tree Ordinance

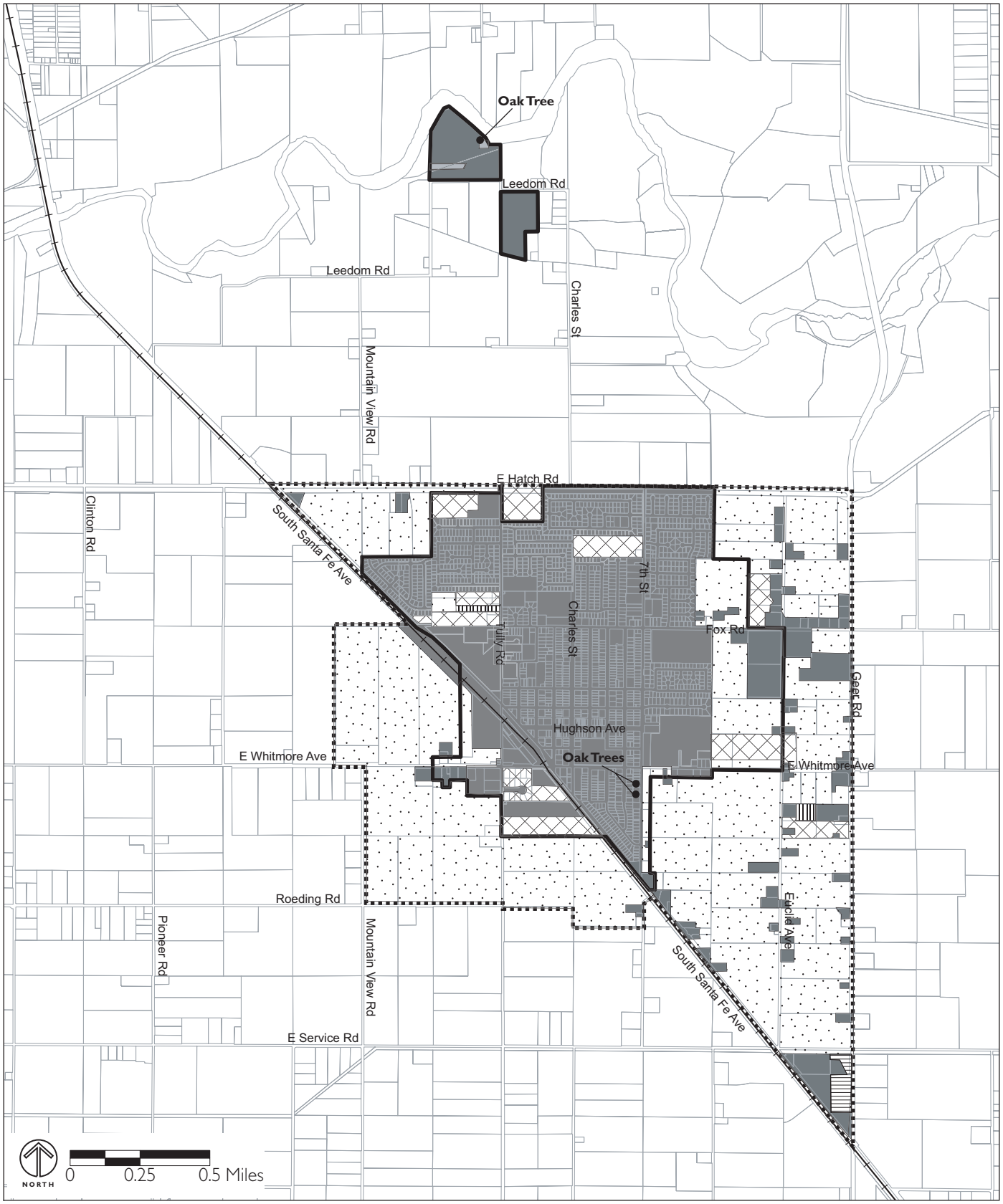
Hughson has an adopted Street Tree Ordinance. This Ordinance addresses the protection of street trees and trees within other public areas from unauthorized removal and/or damage. However, in regards to trees on private property, the Ordinance only addresses the need to correctly maintain trees so that they do not negatively affect neighboring private or public properties.

ii. Standard Conditions of Approval

The City's Standard Conditions of Approval include a couple of standards that serve to provide some protection for existing and newly planted trees. New development is required under Standard No. 100 to identify and receive permission for the removal of existing on-site trees. Once planted, Standard No. 101 requires adequate protection and watering infrastructure to be provided for parking lot trees, street trees and trees in planting areas less than 10-feet in width.

2. Existing Vegetation and Associated Vegetation

Agricultural use and urban development have substantially altered the vegetative cover in the Hughson area, replacing most of the original native perennial grasslands, oak woodlands and riparian woodlands, which most likely formed the dominant cover throughout this part of Stanislaus County. Existing vegetative cover now consists of orchards and a few row crops, and limited ornamental landscaping in areas of urban uses and scattered rural residences. Remnant riparian woodland and scrub grow along the banks of the Tuolumne River near the northern ponding area for the City's wastewater treatment plant. A few native valley oaks (*Quercus lobata*) are scattered throughout the Hughson area, in yards of existing residences and along the banks of the Tuolumne River. Vegetative cover in Hughson and the proposed Sphere of Influence (SOI) are depicted in Figure 4.4-1.



Data Source: Stanislaus County GIS

FIGURE 4.4-1

City Limits

Sphere Of Influence

Developed/Disturbed

Orchard Crop

Row Crop

Eucalyptus

Riparian

Oak Tree

Fallow/Ruderal Grassland

VEGETATION

CITY OF HUGHSON
GENERAL PLAN EIR

a. Agricultural Cover

Agricultural crops form the predominant cover in the Hughson area, dominated by walnut orchards, but including other orchards of cherry, persimmon, and other fruits. Several parcels support vineyards north of Hatch Road and east of Euclid Avenue to the southeast. A few parcels in the city limits and SOI have been recently disked and prepared for row crops, generally in the southeastern portion of the project area. Scattered parcels are also used as irrigated and non-irrigated pasture.

The lack of protective cover in the agricultural fields generally limits their suitability as habitat for wildlife. A few species are able to utilize these marginal habitat areas, including the California vole, California ground squirrel, black-tailed jackrabbit, gopher snake, western fence lizard, killdeer and king bird. Raptors such as American kestrel, marsh hawk, red-tailed hawk, Swainson's hawk, barn owl, white-tailed kite and great-horned owl may occasionally forage or pass through the Hughson area, but the low prey population levels generally make the area of poor value to these species. Areas supporting perennial crops such as alfalfa or even irrigated pasture can periodically support higher densities of smaller mammals, which provide an important prey base for raptors. The orchard trees are generally unsuitable as nesting locations for raptors because of routine disturbance as part of maintenance and harvesting.

b. Urban and Landscaped Areas

Ornamental trees, shrubs and groundcovers have been planted as landscaping in the urbanized area of Hughson, and around the scattered rural residences in the Planning Area. These include a variety of native and non-native landscape species, including coast redwood (*Sequoia sempervirens*), Deodar cedar (*Cedrus deodara*), mulberry (*Morus spp.*), eucalyptus (*Eucalyptus spp.*), pines (*Pinus spp.*) and palms (*Phoenix spp.*). Eucalyptus has been planted as two woodlots in Hughson and the SOI, as shown in Figure 4.4-1. As noted previously, scattered native valley oak occur in yards and at field margins in some locations in the Hughson area. A wide variety of relatively young native and

non-native trees have been planted over approximately seven acres of the Hughson Botanical Garden site along Whitmore Avenue west of Euclid Avenue

The trees in yards, parks and vacant fields provide nest locations, roosting substrate and cover for wildlife, particularly birds. Typical bird species that may frequent landscaped areas include: mourning dove, northern mockingbird, yellow-billed magpie, American crow, American robin, house finch, European starling and house sparrow. No conspicuous raptor nests were observed in trees scattered throughout the city and SOI during the field reconnaissance, but detailed surveys were not conducted and nests may be present.

c. Ruderal Grasslands

Ruderal (weedy) and non-native grassland occurs along roadway and field margins, and in the understory of orchards and vineyards. In some locations, vegetative cover has been completely stripped by equipment operation and herbicide application. The ruderal and grassland cover is composed of non-native grasses and forbs, such as wild oat (*Avena fatua*), soft chess (*Bromus mollis*), dove weed (*Eremocarpus setigerus*), bindweed (*Convolvulus arvensis*), bur clover (*Medicago polymorpha*), yellow-star thistle (*Centaurea solstitialis*) and other non-native annuals.

The ruderal cover supports smaller mammals and reptiles, and is occasionally used by several species of birds as seed becomes available. The field margins often serve as retreat cover for smaller wildlife as crops are harvested and fields disked. Species associated with the ruderal grasslands include those found in the agricultural fields, as well as occasional use by graniverous birds such as American gold finch and several species of sparrow.

d. Riparian

The banks and margin of the historic terraces along the Tuolumne River form dense stands of riparian and woodland scrub near the northern ponding areas at the City's wastewater treatment plant site, north of Hatch Road. Dominant tree and shrub species along the river banks include: valley oak, live oak (*Quercus agrifolia*), Fremont cottonwood (*Populus fremontii*), willow

(*Salix spp*.) and elderberry (*Sambucus mexicana*). While most of the margins of the northern ponding area currently support a cover of ruderal grasslands, a few native oaks and elderberry occur on the site. and dense woodland and scrub occurs along the active channel bank of the river.

Although the riparian habitat associated with the Tuolumne River is technically outside the city limits and SOI, it is in proximity to the northern wastewater treatment plant ponding area. The Tuolumne River supports the last remnant of native vegetation and sensitive natural community in the Hughson vicinity, serves as an important movement corridor for fish and wildlife, and is considered to be of regional and State-wide significance both hydrologically and biologically. Species associated with the aquatic and riparian habitat of the river corridor include the anadromous chinook salmon (*Oncorhynchus tshawytsha*), the federally-threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), and the State-threatened Swainson's hawk (*Buteo swansoni*). Areas of dense vegetation along the corridor provide important cover for numerous resident and migratory wildlife, including raccoon, grey fox, brush rabbit and numerous species of birds.

3. Special-Status Species

Special-status species are plants and animals that are legally protected under the State and/or federal Endangered Species Acts or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts and other essential habitat. Species with legal protection under the Endangered Species Acts often represent major constraints to development, particularly when they are wide ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take" of these species. Review of records maintained by the CNDDB, together with other relevant information, indicates that historical occurrences of several plant and

animal species with special status[4] have been reported from the Hughson vicinity. Table 4.4-1 lists the special-status species and communities that may occur within the Hughson vicinity, although the CNDDB has not officially reported any of them occurring within Hughson.

a. Plant Species of Concern

Based on recorded geographic range, plant species with special-status that are known or suspected from the central part of Stanislaus County include: beaked clarkia (*Clarkia rostrata*), Colusa grass (*Neostapfia colusana*), San Joaquin orcutt grass (*Orcuttia inaequalis*), hairy orcutt grass (*Orcuttia pilosa*) and Greenes tuctoria (*Tuctoria greenei*). These and other special-status species known from the Central Valley have various listing status, and most are considered rare (list 1B) by the California Native Plant Society (CNPS). However, due to the extent of past and on-going disturbance from agricultural production and urban development in the Hughson vicinity, none of these or other special-status plant species are believed to occur in Hughson or the SOI at this time.

[4] Special-status species include: officially designated (rare, threatened, or endangered) and candidate species for listing by the CDFG; officially designated (threatened or endangered) and candidate species for listing by the USFWS; species considered to be rare or endangered under the conditions of Section 15380 of the CEQA Guidelines, such as those identified on lists 1A, 1B, and 2 in the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California; and possibly other species which are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on list 3 in the CNPS Inventory or identified as animal "California Special Concern" species by the CDFG. California Special Concern species have no legal protective status under CESA but are of concern to the CDFG because of severe decline in breeding populations in California.

TABLE 4.4-1 **SPECIAL-STATUS SPECIES KNOWN OR SUSPECTED IN THE HUGHSON VICINITY**

Species	Category	Status	Habitat Type
Valley elderberry longhorn beetle	Insect	FT	Riparian, fencerows with elderberry
Northwestern pond turtle	Amphibians/ Reptiles	FSC, CSC	Ponds, rivers, streams
Swainson's hawk	Bird	ST	Riparian, grasslands, agricultural
Golden eagle	Bird	CSC, CP	Grasslands, agricultural
Northern harrier	Bird	CSC	Grasslands agricultural, marshland
Prairie falcon	Bird	CSC	Grasslands, agricultural
Cooper's hawk	Bird	CSC	Riparian, woodland, agricultural
White-tailed kite	Bird	CP	Riparian, grasslands, agricultural
Burrowing owl	Bird	FSC, CSC	Grasslands, agricultural
Tricolored blackbird	Bird	FSC, CSC	Marshland, agricultural
Bank swallow	Bird	ST	Riparian, agricultural
Loggerhead shrike	Bird	FSC,CSC	Grasslands, agricultural
California yellow warbler	Bird	CSC	Riparian
Ringtail	Mammal	CP	Riparian

Source: Environmental Collaborative, 2005.

FT = Listed as Threatened under the Federal Endangered Species Act.

FSC = A Federal Special Concern Species. Former Category 2 candidate species but were considered to common or for which sufficient information was not available to warrant continued listing as candidate.

ST = Listed as Threatened under the California Endangered Species Act.

CP = California fully protected species; individual may not be possessed or taken at any time.

CSC = Considered a species of special concern by the California Department of Fish and Game; taxa have no formal legal protection but nest sites and communal roosts are generally recognized as significant biotic features.

b. Animal Species of Concern

A number of bird, mammal, reptile, fish and insect species with special-status are known or suspected from the Central Valley and Hughson vicinity. These include: Swainson's hawk (*Buteo swainsoni*), bank swallow (*Riparia riparia*), tricolored blackbird (*Agelaius tricolor*), Cooper's hawk (*Accipiter cooperi*), California yellow warbler (*Dendroica petechia brewsteri*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), prairie falcon (*Falco mexicanus*), white-tailed kite (*Elanus caeruleus*), burrowing owl (*Athene cunicularia*), ringtail (*Bassariscus astutus*), northwestern pond turtle (*Clemmys marmorata*) and valley elderberry longhorn beetle (*Des dimorphus mocerus californicus*). Table 4.4-1 also provides information on the name, status and preferred habitat for each of these species.

It should be noted that there remains a potential for occasional use of the Hughson vicinity by other species of concern as well, such as Ferruginous hawk (*Buteo regalis*), long-billed curlew (*Numenius americanus*), mountain plover (*Charadrius montanus*), Aleutian Canada goose (*Branta canadensis leucopareia*), merlin (*Falco columbarius*), American peregrine falcon (*Falco peregrinus anatum*), sharp-shinned hawk (*Accipiter striatus*), pale big-eared bat (*Plecotus townsendii pallescens*), Townsend's western big-eared bat (*Plecotus townsendii townsendii*) and pallid bat (*Antrazous pallida*). This, however, would be limited to occasional wintering activity by migratory bird species or possible occasional foraging activity by species for which essential breeding habitat is generally absent from Hughson and the SOI.

Of the animal species of concern listed in Table 4.4-1, none have actually been reported by the CNDDB for Hughson and the SOI. However, several are of particular concern because of listing status and possible occurrence in the Hughson vicinity. These include: Swainson's hawk, burrowing owl and valley elderberry longhorn beetle. Information on each of these species is summarized below.

i. Swainson's Hawk

One bird species of particular concern in the Central Valley is the Swainson's hawk, a State-listed threatened species and federal "Species of Concern." Swainson's hawk is a summer-breeding resident of the Central Valley, generally occurring in areas where riparian woodland and surrounding agricultural lands provide roosting, nesting and foraging habitat. The loss of nesting and foraging habitat has greatly reduced the breeding range and abundance of Swainson's hawk in California. Originally adapted to open grasslands, it has become increasingly dependent on agricultural lands as native plant communities have been converted to agricultural uses.

Agricultural crop patterns currently influence the distribution and abundance of Swainson's hawk in the Central Valley, and foraging behavior reflects changes in prey density and availability. Swainson's hawk is an opportunistic feeder, foraging in different areas as agricultural practices expose prey or prey populations become abundant. Suitable foraging habitat currently includes open grassland or lightly-grazed dryland pasture; alfalfa and other hay crops; fallow fields; and combinations of hay, grain and row crops such as tomato and beets. Unsuitable foraging habitat includes any crop type in which prey are inaccessible, or which do not support adequate prey populations, such as vineyards, orchards and cotton fields.

Records maintained by the CNDDB do not indicate any known Swainson's hawk nests in the Hughson vicinity. The closest reported occurrence of a Swainson's hawk nest is from the Tuolumne River north of Ceres, over five miles northwest of Hughson. Two basic criteria are generally used by the CDFG in determining whether a particular area is considered to provide potential foraging habitat for Swainson's hawk, which must be mitigated for if converted to urban development.[5] These criteria include: 1) location within a 10-mile radius of an active nest site, and 2) suitable foraging habitat type. Most of the crop types in Hughson and the SOI are unsuitable for use as for-

[5] California Department of Fish and Game, 1997, *Draft Mitigation Guidelines for Swainson's hawk in the Central Valley of California.*

aging habitat by Swainson's hawk, but there remains a possibility that new nests could be established in the vicinity, particularly in the riparian woodlands along the Tuolumne River.

ii. Burrowing Owl

The burrowing owl has no legal protective status under the Endangered Species Acts, but is considered a California Special Concern species by the CDFG and is protected under the MBTA. This owl species uses burrows of California ground squirrel for nesting and retreat, and forages in open grasslands and pastureland. Eradication of ground squirrel populations and conversion of grassland to agricultural and urban use are believed to be the major factors in the decline of this species. Destruction of an active nest or individual owl would be a violation of the MBTA and Section 3503.5 of the State Fish and Game Code.

No occurrences of burrowing owl have been reported by the CNDDB in the Hughson vicinity, but this species is not well monitored by the CNDDB, particularly in the Central Valley were it still remains locally abundant in some areas. The northern ponding area for the City's wastewater treatment pond contain high concentrations of ground squirrel and may support nesting burrowing owl. No evidence of burrowing owls was observed during the field reconnaissance, but detailed surveys were not performed, which are typically necessary to confirm presence or absence.

iii. Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle is dependent on elderberry plants for food, cover and pupation. This beetle was listed as a federally "threatened" species in 1980. It is known only in riparian habitat and adjacent uplands of the Central Valley from Redding south to Bakersfield, and from the western foothills of the Sierra Nevada to the eastern foothills of the coast range. Use of elderberry plants by valley elderberry longhorn beetle, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the beetle's presence is an exit hole created by the larva just prior to the pupal stage. The USFWS considers any stand of elderberry to be potentially suitable habitat

for the beetle, and generally requires that existing plants be protected. In instances where avoidance is not possible, an incidental take permit is issued following preparation of a detailed mitigation plan, which provides for salvaging, transplanting and restoring replacement habitat for the beetle at defined ratios.

The CNDDB records do not include any mapped occurrences of valley elderberry longhorn beetle within Hughson and the SOI, but several have been reported along the Tuolumne River, including just north of the City's wastewater treatment plant. Several elderberry shrubs were observed in the riparian woodland and scrub along the banks of Tuolumne River, near the northern ponding area at the City's wastewater treatment plant during the field reconnaissance. These shrubs should be considered potential habitat for valley elderberry longhorn beetle, and any future activities in their vicinity should consider possible impacts to this species. No other elderberry shrubs were observed during the field reconnaissance, but detailed surveys were not performed and there remains a possibility that other potential habitat for valley elderberry longhorn beetle is present.

4. Wetlands

No conspicuous wetlands were observed within Hughson or the SOI during the field reconnaissance. Man-made ditches and irrigation canals occur throughout the area, but these have been constructed in uplands and would most likely be considered exempt from Corps and CDFG jurisdiction. The active channel of the Tuolumne River, generally below the ordinary high water mark, would be considered jurisdictional waters by the Corps. Any modifications to the river bank would also be subject to review and authorization by the CDFG as part of their Streambed Alteration Agreement process.

5. Conservation Plans

As the Hughson area is primarily characterized by agricultural and urban development, there are no active Habitat Conservation Plans, Natural Community Conservation Plans or other natural resource conservation plans in the Hughson area.

B. Standards of Significance

The proposed 2005 General Plan would result in a significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on a plant or animal population, or essential habitat, defined as a candidate, sensitive, or special-status species.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community type, such as native grasslands.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act, through direct removal, filling, hydrological interruption, or other means.
- Have a substantial interference with the movement of any native resident or migratory fish or wildlife species, their wildlife corridors, or nursery sites.
- Conflict with any local ordinances or policies protecting biological resources.
- Conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

C. Impact Discussion

The following section discusses the potential changes that may result from implementation of the 2005 General Plan, as well as an analysis of whether these changes would result in significant environmental impacts to biological resources.

1. Disturbance to Common and Non-Native Species

Implementation of the 2005 General Plan would remove agricultural crops and common plants associated with the ruderal grasslands, most of which are

non-native species. Loss of ruderal and non-native grasslands would occur from direct (i.e. removal, ground disturbance, etc.) and indirect (i.e. human intrusion) actions associated with the development of land within the city limits and SOI. Because the grasslands are dominated by non-native species, disturbance outside of areas containing possible jurisdictional wetlands or essential habitat for special-status species would be less than significant.

The existing urban, agricultural and ruderal grassland habitat within Hughson and the SOI provide breeding, foraging and shelter for a variety of common wildlife species, including the American crow, scrub jay and various songbirds. Common wildlife species such as these are abundant throughout California and therefore are not afforded protection from federal, State or local resource agencies.

Trees in Hughson and the SOI, particularly the few large, mature trees, provide foraging opportunities, nesting habitat and shelter for a diversity of wildlife. Very few of the large trees in the project area are valley oaks or other native species, but all trees provide foraging, roosting and possible nesting habitat for numerous species of birds. Loss of trees would result from both direct (i.e. removal) or indirect (i.e. degradation of soils, encroachment, etc.) impacts associated with new development. To address this concern, the City's Standard Condition of Approval No. 100 includes measures to avoid damage to trees and facilitate their preservation. In addition, several policies in the 2005 General Plan encourage preservation of existing trees, including Policy LU-3.10, which calls for incorporating mature orchard trees into landscaping plans for new development, and Policy LU-3.11, which provides interim guidance in regards to the provision of trees as part of new residential and commercial development until the City adopts a Master Tree Plan. Policy COS-3.1 requires new development to preserve, protect and incorporate established native trees into the site design. Together, these policies would serve to adequately protect existing tree resources from new development allowed under the 2005 General Plan, and potential impacts on tree resources would therefore be considered less than significant.

2. Sensitive Natural Communities

Sensitive natural communities are generally absent in Hughson and the SOI due to the extent of past agricultural conversion and urban development. Remnant riparian scrub and woodland occurs along the Tuolumne River, near the northern ponding area of the City's wastewater treatment plant site, north of Hatch Road. The 2005 General Plan does not propose any change of uses for the northern ponding area. The only potential growth that may occur in this area would be an expansion of the wastewater treatment plant, but this would most likely occur on the southern parcel, which is not adjacent to the Tuolumne River. As a result, no adverse impacts on sensitive natural communities are anticipated.

3. Special-Status Species

The potential for occurrence of special-status species in Hughson and SOI is generally considered to be low. Due to the extent of past and on-going disturbance from agricultural production and urban development in the Hughson vicinity, no special-status plant species are believed to occur in the project area and no adverse impacts are anticipated.

Development associated with implementation of the 2005 General Plan could have adverse impacts on a number of special-status animal species if they are present within areas permitted for future development. Species of particular concern in the Hughson vicinity include Swainson's hawk, burrowing owl, other raptors and the valley elderberry longhorn beetle. The following provides a summary of potential impacts on these special-status species.

i. Valley Elderberry Longhorn Beetle

Elderberry shrubs constitute suitable habitat for the valley elderberry longhorn beetle. Although there were no elderberry shrubs observed during the field reconnaissance survey, elderberry shrubs may occur in Hughson and the SOI but went undetected on private lands, or could become established in the future. Since the valley elderberry longhorn beetle is protected under the FESA, development allowed under the 2005 General Plan has the potential to significantly impact this resource. To address this, the 2005 General Plan

includes Policy COS-3.4, which requires new development to ensure that suitable habitat for valley elderberry longhorn beetle is adequately avoided, any elderberry shrubs on project sites are identified, and adequate mitigation is provided where development is proposed within 100 feet of elderberry shrubs. This policy would reduce the potential for impacts to the valley elderberry longhorn beetle to a less-than-significant level.

ii. Swainson's Hawk

Swainson's hawk is a State-listed, threatened species that is known to occur within five miles of Hughson.[6] This species could potentially nest in mature trees, including large valley oak, black walnut and cottonwood trees within or adjacent to the project area. Additionally, the fallow agricultural fields, farmed croplands and annual grassland habitats provide potential foraging habitat for this species. The CDFG typically considers the conversion of suitable foraging habitat within 10 miles of a known nesting location to be a possible take of essential habitat. Disturbances to nesting Swainson's hawk and removal of potential foraging habitat is a potentially significant impact.

Habitat loss is the most significant threat to the remaining populations of Swainson's hawk, as agricultural practices change or agricultural lands are converted to urban uses and nest trees are destroyed. In the absence of adequate mitigation, the CDFG may consider the loss of potential foraging habitat within the Hughson area to constitute a "take" under Section 2081 of the CESA. Proposed development allowed under the 2005 General Plan could eliminate most of the remaining potentially-suitable Swainson's hawk foraging habitat in Hughson and the SOI, which would most likely be considered a significant loss by the CDFG if not mitigated.

The CDFG has developed detailed mitigation guidelines in an effort to protect critical habitat for Swainson's hawk. The *Draft Mitigation Guidelines for Swainson's Hawk in the Central Valley of California* were prepared by the CDFG to provide information on recommended management, natural his-

[6] CNDDB, 2004.

tory and population status, nesting and foraging requirements, and mitigation criteria for Swainson's hawk, with a general goal of no net loss of breeding or foraging habitat. The guidelines are intended to provide lead agencies and project sponsors with an interim framework for developing adequate measures to mitigate the loss of habitat until a comprehensive habitat resource plan is completed by the CDFG, or habitat conservation plans are implemented on a local level. The mitigation criteria specified in the guidelines include: consultation with representatives of CDFG, restrictions on disturbance within one-half mile of a known nest site from March 1 through August 15, prevention of loss of nest trees, maintenance of sufficient foraging habitat to support breeding pairs and successful fledging of young, and restoration and enhancement of nesting and foraging habitat.

The 2005 General Plan includes policies to address the potential impact to Swainson's hawk. Policy COS-3.2 requires new development to meet all federal, State and regional regulations for habitat and species protection, which would include any CDFG mitigation guidelines for Swainson's hawk. Policy COS-3.5 requires new development to ensure that active nests for special-status bird species are avoided during construction through pre-construction surveys, and if active nests are encountered, through restrictions on construction activities until any young have fledged. These General Plan policies, in conjunction with existing federal and State regulations, would reduce the potential impact of implementation of the 2005 General Plan to Swainson's hawks to a less-than-significant level.

iii. Burrowing Owl

The annual grassland habitats and margins of undisturbed fallow agricultural fields provide suitable locations that may support nesting or resident burrowing owls. If occupied burrows or other nesting locations are identified during construction resulting from the implementation of the 2005 General Plan, activities such as grading, grubbing and excavation could result in the removal of occupied burrows during both the breeding and wintering seasons. This could result in the loss of individual owls, including or independent of young or eggs. Burrowing owl nests are protected under the provisions of the

MBTA and the CDFG Code 3503.5. Burrowing owls are known throughout the San Joaquin Valley, suitable habitat is present, and there is a potential for this species to establish nests in the future before construction proceeds. As mentioned above, the 2005 General Plan includes Policies COS-3.2 and COS-3.5, which require new development to comply with federal and State regulations, as well as protect active nests during construction. These policies would reduce the potential impact to burrowing owls to a less-than-significant level.

iv. Nesting Raptors and Other Migratory Birds

Habitat within Hughson and the SOI may support nesting by other raptors and migratory bird species such as barn owl, Cooper's hawk, loggerhead shrike, red-tail hawk and white-tail kite. The mature orchards and other trees in the project area provide suitable nesting habitat for raptors and other migratory birds. The annual grassland, orchards and other agricultural lands, including croplands and fallow fields, provide foraging opportunities of varying quality. Raptors and migratory birds are considered special-status species by federal and/or State resource agencies, and the disruption and destruction of active nests constitutes a violation of the MBTA and CDFG Code 3503.5.

Disruption or destruction of such nests could occur if construction allowed by the 2005 General Plan takes place during the nesting season (March through August) and there are birds nesting within an individual project site or in the vicinity of proposed construction. Given the possibility that new nests could be established in the future before construction is initiated, this impact would be considered potentially significant. As mentioned above, the 2005 General Plan includes Policies COS-3.2 and COS-3.5, which require new development to comply with federal and State regulations, as well as protect active nests during construction. These policies would reduce the potential impact to raptors and migratory bird species to a less-than-significant level.

4. Fill of Potential Waters of the United States

No evidence of jurisdictional wetlands and other waters was observed during the reconnaissance of Hughson and the SOI, with the exception of the Tuolumne River corridor near the northern ponding area of the City's wastewa-

ter treatment plant site. However, there is a possibility that seasonal wetlands, which could not be detected without further detailed study as part of a wetland delineation, may occur on vacant or agricultural parcels that would be allowed to develop urban uses under the 2005 General Plan. A determination on whether the various ditches and drainages in the project area are considered by the Corps to be regulated waters would also be necessary prior to any culverting or filling. If any jurisdictional wetlands or waters are present, future development could result in unauthorized fill and loss, which would be a significant impact.

Recognizing this concern, the 2005 General Plan includes Policy COS-3.6, which requires new development to avoid any jurisdictional waters to the maximum extent practicable, obtain any required authorization from jurisdictional agencies, and provide adequate mitigation for unavoidable impact. This policy would reduce the potential for a significant impact to wetlands to a less-than-significant level.

5. Conflict with Local Ordinances and Policies

As previously mentioned, the City has an adopted Street Tree Ordinance and Standard Conditions of Approval that provide some protection to existing and newly planted trees. The proposed 2005 General Plan does not include any policies that would be in conflict with these adopted ordinances and policies. In fact, the 2005 General Plan includes Policy LU-3.11, and Actions LU-3.5 and LU-3.6, which support the Street Tree Ordinance by stating that the City would enforce the Street Tree Ordinance and develop a Master Tree Plan. In addition, Policy COS-3.1 states that new development shall preserve, protect and incorporate established native trees into site design. Since the 2005 General Plan does not conflict with adopted ordinances and policies, and in fact includes policies and actions to support them, no impact would occur from implementation of the 2005 General Plan.

6. Conflict with Adopted Habitat Conservation Plan

As no Habitat Conservation Plans have been adopted encompassing the Hughson area, no conflicts would occur as a result of implementing the 2005 General Plan.

D. Cumulative Impact Discussion

Development associated with implementation of the 2005 General Plan would contribute to the ongoing loss of natural and agricultural lands in the Hughson area, which currently provide habitat for common species, and possibly for a number of special-status species. Proposed development under the 2005 General Plan would result in the conversion of existing agricultural habitat to urban and suburban uses. This conversion would generally reduce current habitat values for existing resident and migratory species. Applicable policies from the 2005 General Plan, together with federal and State regulations, would serve to reduce project-specific impacts of development in Hughson and the SOI to less-than-significant levels. Development outside of Hughson in Stanislaus County, would also be subject to the same federal and State regulations addressing sensitive species. As a result, with compliance with applicable regulations, the overall cumulative impact to biological resources would be mitigated to a less-than-significant level.

E. Impact and Mitigation Measures

Since the implementation of the 2005 General Plan would not result in significant impacts to biological resources, no mitigation measures are required.

4.5 CULTURAL RESOURCES

This section summarizes information on the cultural resources in Hughson and provides an evaluation of the effects the 2005 General Plan would have on these sensitive resources.

A. Existing Setting

The following provides a general description of the regulatory setting and existing cultural resources in and around Hughson, including an historic overview of the area and summary of potential resources.

1. Regulatory Setting

There are several federal and State laws and regulations applicable to historical and architecturally-significant resources, as well as archaeological and paleontological resources. The key regulations are discussed briefly below.

a. National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) is the most influential federal law dealing with historic preservation. In addition, Congress has enacted numerous other statutes that affect historic properties. One of the most important provisions of the NHPA is the establishment of the National Register of Historic Places (NRHP), the official designation of historical resources. Districts, sites, buildings, structures and objects are eligible for listing in the Register. Nominations are listed if they are significant in American history, architecture, archeology, engineering and culture. The NRHP is administered by the National Park Service. To be eligible, a property must be significant under criterion A (history), B (persons), or C (design/construction); possess integrity; and ordinarily be 50 years of age or more.

Listing in the NRHP does not entail specific protection or assistance for a property, but it does guarantee recognition in the planning for federal or federally-assisted projects (see Section 106), eligibility for federal tax benefits, and qualification for federal historic preservation assistance. The NRHP is influential beyond its statutory role because it achieves uniform standards of docu-

mentation and evaluation. Additionally, project effects on properties listed in the NRHP must be evaluated under CEQA. According to a search of the National Park Service's on-line NRHP database, there are no listed National Register properties in Hughson.[1]

b. California Register of Historic Resources

The California Register of Historical Resources establishes a list of those properties which are to be protected from substantial adverse change (Public Resources Code Section 5024.1). A historical resource may be listed in the California Register if it meets any of the following criteria:

- It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- It is associated with the lives of persons important in California's past.
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value.
- It has yielded or is likely to yield information important in prehistory or history.

The Register includes properties that are listed or have been formally determined to be eligible for listing in the NRHP, State Historical Landmarks and eligible Points of Historical Interest. Other resources require nomination for inclusion in the Register. These may include resources contributing to the significance of a local historic district, individual historical resources, historical resources identified in historic resource surveys conducted in accordance with State Historic Preservation Office (SHPO) procedures, historic resources or districts designated under a local ordinance consistent with Com-

[1] National Park Service, National Register of Historic Places, http://www.nr.nps.gov/ accessed on May 10, 2005.

mission procedures, and local landmarks or historic properties designated under local ordinance.[2]

c. Health and Safety Code, Section 7052 and 7050.5

Section 7052 of the Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If determined to be Native American, the coroner must contact the California Native American Heritage Commission (NAHC).[3]

d. California Native American Historical, Cultural and Sacred Sites Act

The California Native American Historical, Cultural and Sacred Sites Act applies to both State and private lands. The Act requires that upon discovery of human remains, that construction or excavation activity cease and that the county coroner be notified. If the remains are of a Native American, the coroner must notify the NAHC. The NAHC then notifies those persons mostly likely to be descended from the Native American remains. The Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.[4]

e. Public Resource Code, Section 5097

Public Resources Code, Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of human remains on nonfederal land. The disposition of Native American burial falls within the jurisdiction of the NAHC. Section 5097.5 of the Code states the following:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins,

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[2] http://ceres.ca.gov/topic/env_law/ceqa/more/tas/page2.html, accessed June, 28, 2005.

[3] http://ceres.ca.gov/nahc/statepres.html, accessed June, 28, 2005.

[4] http://www.arrowheads.com/burials.htm#CALIFORNIA, accessed June, 28, 2005.

> burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the State or any city, county, district, authority or public corporation, or any agency thereof. Consequently, Hughson is required to comply with Public Resource Code Section 5097.5 for its activities on publicly-owned land.[5]

2. Existing Cultural Resources

Hughson's history began with Native American settlements in the region and transitioned into a mainly agricultural community with the arrival of European settlers. In 1882, Hiram Hughson purchased 1,000 acres for a grain ranch, which eventually grew to contain 5,000 acres. The San Joaquin Railroad purchased land from Mr. Hughson for its tracks and established the Hughson stop and station, which began to draw settlers to the area. This boom elevated the price of Mr. Hughson's land and spurred him to place it in the hands of the Hughson Town Company for development. A portion of this land became the City of Hughson. Eventually, another land owner to the south of Hughson, John Tully, opened up his land for settlement and the Township was established in 1907.

In 1999, the Hughson Historical Society was established to document historical photographs and oral histories of the City, as well as eventually establish a museum. The Society is working with the City in these efforts and gathered public support during the General Plan update visioning process.

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[5] http://www.dot.ca.gov/ser/vol1/sec3/physical/Ch08Paleo/chap08paleo.htm#statelaws, accessed June 28, 2005.

In 2005, the Central California Information Center (CCIC) conducted a detailed record search for prehistoric and historic resources within the Hughson city limits, SOI and immediate vicinity. A historical resource is defined as a building, structure, object, prehistoric or historic archaeological site, or district possessing physical evidence of human activities over 45 years old. The review covered the following sources:

- National Register of Historic Places
- California Register of Historical Resources
- California Inventory of Historic Resources (1976)
- California Historical Landmarks (1990)
- California Points of Historical Interest (May 1992 and updates)
- Historic Property Data File (Office of Historic Preservation, May 2005)
- Caltrans State and Local Bridge Survey (1989 and updates)
- Survey of Surveys (1989)
- GLO Plats
- Other pertinent historic data available at the CCIC, by county

The following provides an overview of the known and potential historic, archaeological and paleontological resources that may be encountered in the project area.[6]

a. Archaeological Resources

Due to evidence of pre-historic human activity in the region, and the relatively long time that European settlements have occurred in Hughson, there is the possibility of cultural resources occurring in the City and the surrounding area. However, no prehistoric or historic archaeological resources within the project area or its vicinity, nor resources that would have value to local cultural groups, have been reported to the CCIC at this time. However, the CCIC has identified the area within a mile of the Tuolumne River as an area with a higher probability for archeological resources.[7]

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[6] Hards, Robin. 2005. Central California Information Center, California Historical Resources Information System, Assistant Research Technician. June,1 2005.

[7] Hards, Robin. 2005. Central California Information Center, California Historical Resources Information System, Assistant Research Technician. June,1 2005.

b. Historical Resources

Hughson has not been comprehensively surveyed for significant historical structures and buildings, but does have some over 45 years old, especially buildings in the Downtown. Some of these older buildings may be considered significant historic structures under State or federal definition. Any buildings, structures or objects from the late 1800s or early 1900s, such as residences, farm or ranch complexes, commercial and industrial facilities, civic buildings, churches, railroad features, bridges, canals, etc. could be possible historic resources. The CCIC survey of the Historic Property Data File for Stanislaus County found a listing of five properties that were subject to evaluation within Hughson, but none of them are considered eligible for the NRHP and none have yet been evaluated for the California Register.[8]

c. Paleontological Resources

According to the University of California Berkeley database of paleontological resources, the vertebrate fossils found closest to Hughson were located on the eastern edge of Modesto, and in the area between Empire and Waterford to the northeast side of Hughson. Both artifacts were from the Quaternary period and the Pleistocene epoch. Eight other examples of vertebrate fossil resources and two invertebrates fossils have been found throughout the County. Although the chance of discovery of paleontological resources is low, the City has established guidelines in its Standard Conditions of Approval that encourage compliance with State and federal requirements for the protection of all cultural resources. According to these regulations, development that encounters or uncovers cultural resources, including paleontological resources, is required to halt construction, assess the situation and mitigate potential impacts to these resources as necessary. The City recognizes that the ultimate responsibility lies with the project applicant.

[8] Hards, Robin. 2005. Central California Information Center, California Historical Resources Information System, Assistant Research Technician. June,1 2005.

B. Standards of Significance

The proposed project would have a significant impact with regards to cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource.
- Cause a substantial adverse change in the significance of an archaeological resource.
- Disturb any human remains, including those interred outside of formal cemeteries.
- Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature.

C. Impact Discussion

The following section discusses the potential changes that may result with adoption and implementation of the 2005 General Plan, as well an analysis of whether these changes would result in significant environmental impacts.

1. Historical Resources

The City of Hughson contains numerous buildings over 45 years old, which indicates a potential for historical significance. While the majority of new development would occur on land without existing structures, redevelopment within Hughson allowed under the 2005 General Plan could occur in areas containing buildings with potential historic significance. Changes to building exteriors or demolition has the potential to affect historic resources. Because a comprehensive survey of historic resources in and around Hughson has not been conducted, nor has the City designated significant historic resources, the 2005 General Plan includes policies to protect resources that could be impacted by development. Action COS-4.1 directs the City to conduct a survey of structures in the Hughson area to determine any of historical or architectural significance to the City, and Policy COS-4.1 supports the efforts of the

Hughson Historical Society to document and preserve the community's history and create a museum to highlight Hughson's past.

To protect cultural resources in advance of these determinations, and afterwards, Policy COS-4.2 requires developers to provide an assessment by appropriate professionals regarding the presence and condition of on-site historical resources on and adjacent to the project site, as well as the viability for continued use and reuse, and the potential for adverse impacts on these resources and appropriate mitigation, prior to project approval. This policy would apply to discretionary projects subject to CEQA, as well as ministerial projects with the potential to affect buildings that are 45 years older or more. Special attention is recommended for areas within one mile of the Tuolumne River. Implementation of these policies included in the 2005 General Plan would reduce impacts to historical resources to a less-than-significant level.

2. Archaeological and Paleontological Resources

Development allowed under the 2005 General Plan would also involve construction activities that could result in the disturbance of undiscovered archaeological or paleontological resources during grading or other on-site excavation activities. As a safeguard, the previously-mentioned Policy COS-4.2 also applies to archaeological and paleontological resources. Should archaeological or paleontological sites and resources be uncovered during construction, Policy COS-4.3 outlines the City's commitment to require the cessation of these activities until appropriate mitigation is implemented. This policy extends to the discovery of human remains as well, and would also mitigate any adverse changes to the significance of these resources. As a result, implementation of the 2005 General Plan would not result in significant impacts to archaeological or paleontological resources, sites or unique geological features.

D. Cumulative Impact Discussion

While grading and other construction activities have the potential to impact cultural resources in Hughson and the SOI, 2005 General Plan policies and compliance with federal and State regulations reduce the project-specific impact to a less-than-significant level. Regional development throughout the County could also affect cultural resources located in other part of Stanislaus County. However, development in these areas would also be subject to federal and State laws protecting cultural resources. As a result, no significant cumulative impact would occur.

E. Impacts and Mitigation Measures

Since the implementation of the 2005 General Plan would not result in significant impacts to cultural resources, no mitigation measures are required.

4.6 GEOLOGY AND SOILS

This section summarizes information on geology, soils and seismic hazards, and mineral resources in the project area, as well as potential area-wide geologic hazards and regional seismic characteristics that are relevant to development within the project area. An evaluation of the impacts of adoption and implementation of the proposed 2005 General Plan with regard to these potential hazards and resources follows.

A. Existing Setting

The background information necessary to determine the potential impacts of the proposed project is provided below. This includes descriptions of the regulatory environment; regional and local geology; seismic activity; secondary seismic hazards, including ground rupture and shaking, liquefaction, landslides and ground failure, and land subsidence; soils and mineral resources relevant to the project area.

1. Regulatory Setting

The State of California has established a variety of regulations and requirements related to seismic safety and structural integrity, including the California Building Code, the Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act.

a. California Building Code

The California Building Code (CBC) is included in Title 24 of the California Code of Regulations and is a portion of the California Building Standards Code. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The CBC incorporates the Uniform Building Code, a widely adopted model building code in the United States.

Through the CBC, the State provides a minimum standard for building design and construction. The CBC contains specific requirements for seismic

safety, excavation, foundations, retaining walls and site demolition. It also regulates grading activities, including drainage and erosion control.[1]

Hughson is subject to State Building Codes; however, the City has not updated Chapter 15.04, Uniform Codes, of the Hughson Municipal Code since 1990 to reflect changes to the CBC.

b. Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act[2] was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The main purpose of the Act is to prevent the construction of buildings used for human occupancy on top of active faults. The Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards.[3]

The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones or Alquist-Priolo Zones)[4] around the surface traces of active faults, and to issue appropriate maps. The maps are distributed to all affected cities, counties, and State agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the zones and there can generally be no construction within 50 feet of an active fault zone.[5]

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[1] California Code of Regulations, Title 24 (California Building Standards Code) summary page. http://www.bsc.ca.gov/title_24/t24_2001tried.html, accessed on November 4, 2003.

[2] Called the *Alquist-Priolo Special Studies Zones Act* until renamed in 1993.

[3] California Geological Survey, Alquist-Priolo Earthquake Fault Zones, http://www.consrv.ca.gov/CGS/rghm/ap/, accessed on February 18, 2004.

[4] Earthquake Fault Zones are regulatory zones around active faults. The zones vary in width, but average about one-quarter mile wide. http://www.consrv.ca.gov/cgs/rghm/ap/index.htm, accessed on November 18, 2003.

[5] California Geological Survey, Alquist-Priolo Earthquake Fault Zones, http://www.consrv.ca.gov/CGS/rghm/ap/, accessed on February 18, 2004.

As of May 1, 1999, the California Geologic Survey does not list the City of Hughson on its list of cities affected by Alquist-Priolo Earthquake Fault Zones.[6]

c. Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides.[7] Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The Act states that "it is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety."[8] Section 2697(a) of the Act additionally requires that "cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard." Stanislaus County has not been mapped under the Seismic Hazards Mapping Act yet since the State has targeted higher risk areas, such as the San Francisco Bay Area and the Los Angeles/Riverside areas.[9]

2. Geologic Hazards and Soils

The risks related to seismic activity and soil conditions are generally low in Hughson. The following provides a detailed discussion of Hughson's location and how it relates to the threat of seismic activity and unstable soils.

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[6] http://www.consrv.ca.gov/CGS/rghm/ap/affected.htm, accessed on May 9, 2005.

[7] California Geological Survey, Alquist-Priolo Earthquake Fault Zones, http://www.consrv.ca.gov/CGS/rghm/ap/, accessed on February 18, 2004.

[8] California Public Resources Code, Division 2, Chapter 7.8, Article 7.8, Section 2691(c), http://www.consrv.ca.gov/cgs/codes/prc/chap-7-8.htm, accessed on February 19, 2004.

[9] Hill, Candice. California Geological Survey, Seismic Hazards Mapping Program. Personal conversation, May 9, 2005.

a. Seismic Hazards

Hughson is located between two seismically-active regions, the Sierra foothills and the Coast Range, and is therefore subject to risk of hazards associated with earthquakes. However, according to the US Geological Survey's National Seismic Hazard Mapping Project, ground-shaking seismic hazards in Hughson are lower than most of California.[10] In addition, the California Department of Conservation's 2000 "Epicenters of and Areas Damaged by M > 5 California Earthquakes, 1800-1999" map does not show any recorded damage from larger earthquakes in the Hughson area.[11] As shown in Figure 4.6-1, the closest fault line to Hughson is the San Joaquin Fault, which runs approximately 20 miles west of the Town.

While Hughson has a relatively low risk of seismic hazards when compared to the rest of California, the community is surrounded by seismically-active regions and will on occasion experience earthquakes. Seismic activity presents two types of hazards: primary and secondary. Primary hazards include ground rupture and ground shaking. As there are no faults in direct proximity to the city, and Hughson is not within an Alquist-Priolo designated zone, the risk of seismically-induced ground rupture is low. However, the faults in the region are capable of generating earthquakes of significant magnitude on the Richter Scale, potentially producing ground shaking in Hughson.

Earthquake-related hazards can include secondary effects, such as earthquake induced land or mud slides, liquefaction, tsunamis and seiche. Since Hughson is relatively flat, the potential for land or mudslide is low. Tsunami and seiche risks are discussed further in Section 4.8 of this report, Hydrology and Water Quality.

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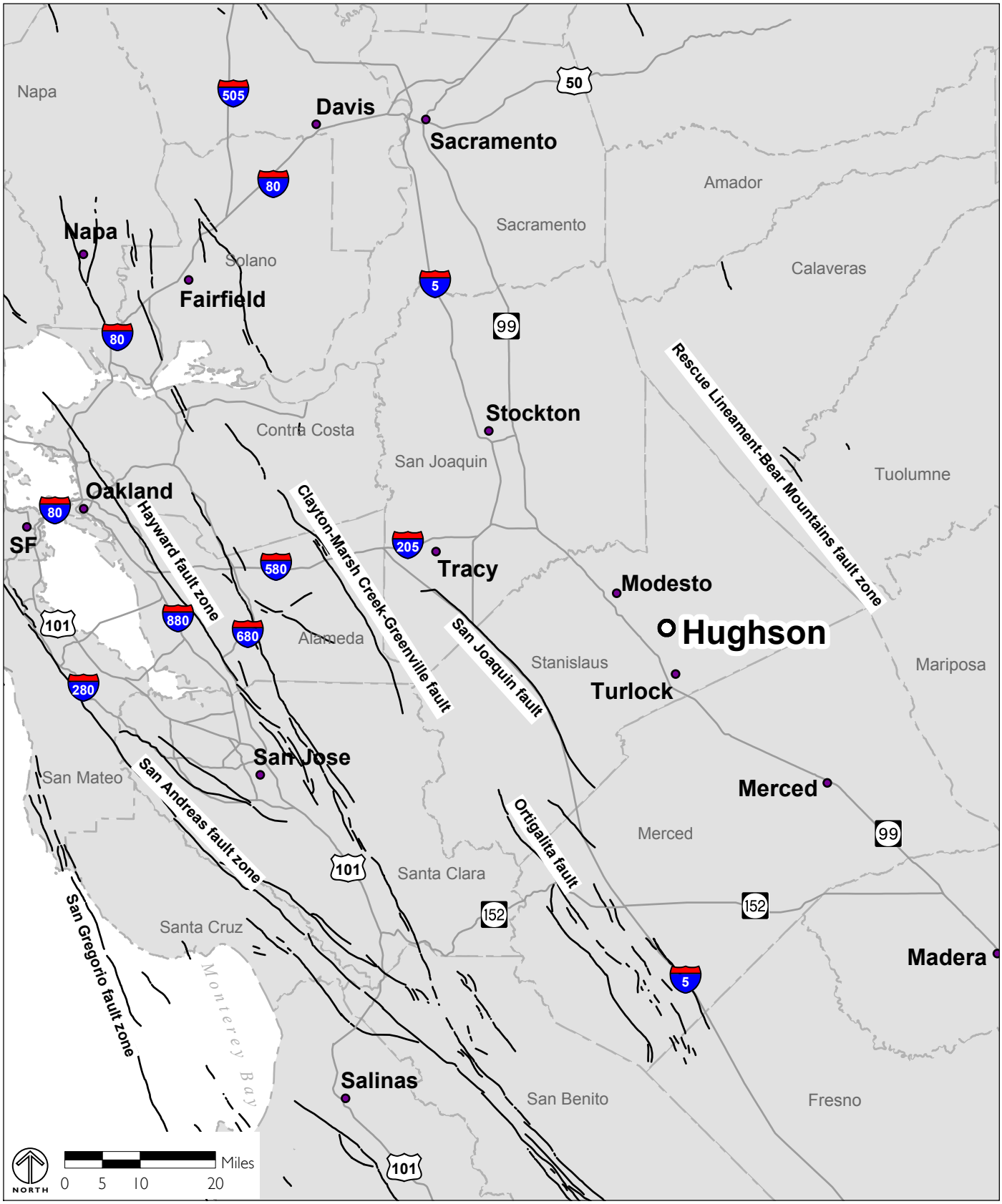
[10] US Geological Survey, http://neic.usgs.gov/neis/states/california/hazards.html retrieved February 3, 2005.

[11] California Geological Survey, http://www.consrv.ca.gov/cgs/rghm/quakes/MS49.htm retrieved on February 3, 2005.



Data Source: United States Geological Survey, 2005. http://quake.usgs.gov/.

FIGURE 4.6-1

Major named faults

REGIONAL EARTHQUAKE FAULTS

CITY OF HUGHSON
GENERAL PLAN EIR

Liquefaction is a phenomenon primarily associated with saturated, cohesionless soil layers located close to the ground surface. During liquefaction, soils lose strength and ground failure may occur. The California Department of Conservation has not mapped the Hughson area to identify the potential for soil liquefaction. However, as soils must be saturated to be at risk of liquefaction, the areas in Hughson most susceptible to liquefaction include areas along the Tuolumne River and where there are high groundwater levels.[12]

Most loss of life and injuries that occur during an earthquake are related to the collapse of buildings and structures. Building codes and engineering requirements are now designed so that all new construction will better withstand forces associated with a major earthquake. Hughson requires all new development or substantial renovations comply with these regulations, which include seismic design, foundations and drainage, and requirements for geotechnical engineering studies for all major new buildings or earth works. Older buildings, especially those constructed of unreinforced masonry built prior to newer building codes, could be subject to severe damage in an earthquake. Unreinforced masonry buildings would most likely be located in the Downtown.

b. Soils

Soil mapping is used to help identify potential geotechnical concerns, such as erosion and expansion, that are more common with certain soils types. Identifying local soil types and understanding the associated characteristics helps cities establish appropriate engineering and construction standards for new building and remodeling. As shown in Figure 4.6-2, Hughson and its SOI are underlain by Hanford and Tujunga series soils, with a little area of Greenfield series found at the intersection of Hatch and Geer Roads. Table 4.6-1 identifies other soil types encountered in the Hughson area, and also summarizes each soil type's potential for erosion and expansion.

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[12] Stickney, Dale, California Geological Survey Library. Personal conversation with Lisa Fisher, DC&E. February 3, 2005.

Since Hughson is relatively flat, there is a limited potential for erosion. The greatest potential for erosion is due to wind, since the Tujunga series has a moderate to high potential for wind erosion. None of the soils have a high potential for water erosion. The Hanford series has a moderate potential for erosion, but only if slopes exceed eight percent, which is not common in the city. The Greenfield series only has a slight potential for erosion.

Expansive soils contain higher levels of clay and present hazards for development since these soils expand and shrink depending on water content, damaging structures that were not appropriately engineered. Since all of the soils in the Hughson area are mainly comprised of sand, they pose a very low risk of expansion. The Greenfield series has the highest clay content, and therefore, would pose the greatest risk to structures. However, even the Greenfield series is considered to have a low expansion potential.

c. Septic Systems

The City requires new development within the city limits to connect with the City's municipal wastewater treatment system.

3. Mineral Resources

No portion of the Hughson city limits or SOI is designated by the California Department of Conservation as having the potential for being a significant source of composite materials or industrial minerals.[13] In addition, neither the City nor the County has designated important mineral resources recovery areas within the project area. The Stanislaus County General Plan includes Implementation Measure 3 for Policy 26 of the Conservation/Open Space Element, to adopt Mineral Resource land use designations for areas identified by the State as significant deposits of mineral resources.[14]

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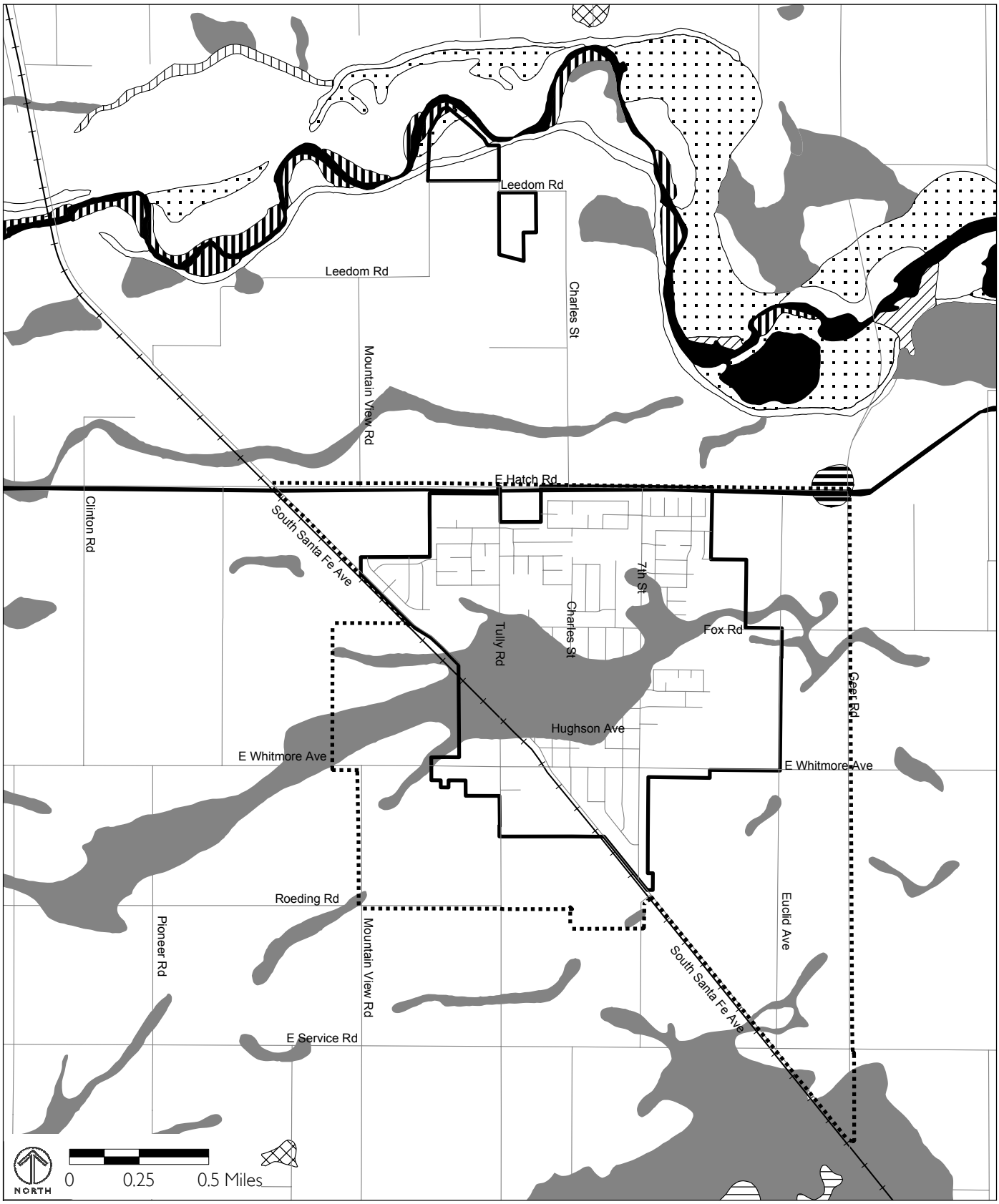
[13] Department of Conservation, *Special Report 173 - Mineral Land Classification of Stanislaus County, California, 1993*, Plates 4B and 8B.

[14] *Stanislaus County General Plan, Conservation/Open Space Element*, page 3-20.



Data Source: U.S. Department of Agriculture, Soil Survey Data (SSURGO).

Dello series
Dinuba series
Grangeville series
Greenfield series
Hanford series
Tujunga series
Whitney series
Gravel pits
Riverwash
Terrace escarpments
Water
City Limits
Sphere Of Influence

FIGURE 4.6-2

SOIL TYPES

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TABLE 4.6-1 **SOIL TYPES AND CHARACTERISTICS**

Soil Series	Erosion Potential	Expansion Potential
Dello	None	None to low
Dinuba	Slight	None to low
Grangeville	Slight	None to low
Greenfield	Slight	Low
Hanford	None to moderate	None to low
Tujunga	Slight to moderate for water erosion Moderate to high for wind erosion	None to low
Whitney	Slight	None to low

Source: USDA, Soil Survey Data (SSURGO); USDA Soil Survey for Eastern Stanislaus Area California, September 1964; Personal conversation with Bradley Hicks, USDA Field Office Modesto, February 4, 2005.

However, all of the city limits, south of Hatch Road, and the SOI are designated as MRZ-3a SG(C14) by the Department of Conservation for aggregate resources. Areas thus designated are known to have aggregate resources (Pliocene and younger alluvium), but their significance has not been determined. The MRZ-3a SG(C14) designation is found commonly throughout the San Joaquin Valley flats in Stanislaus County, and is one of the factors that the soils in the area are useful for agriculture.[15]

Along the Tuolumne River, to the north of the City, the Department of Conservation has designated areas as MRZ-3a SG(C17) for aggregate resources. The only portion of the city limits and SOI that may be within these areas is the Hughson Wastewater Treatment Plant. The MRZ-3a SG(C17) designation is applied to areas containing Tuolumne River alluviums. Areas with this designation to the west of Geer Road were mined for

[15] Department of Conservation, *Special Report 173 - Mineral Land Classification of Stanislaus County, California, 1993*, pages 76 and 80-81 and Plates 2B and 2C.

sand and gravel in the 1930's and 1940's; however, much of this resource has been depleted. The Department of Conservation also shows a permitted mining pit, the Schmidt Pit, along the Tuolumne River directly west of Geer Road. There are a couple other pits, the Landmark Pit and Warner Pit, along the River to the east of Geer Road. All three pits are designated as MRZ-2b SG(C6), which are considered areas with a high likely-hood of significant concrete-grade aggregate. None of these pits are within the project area.[16]

B. Standards of Significance

The implementation of the proposed project would result in a significant geologic or seismic impact if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
  - Strong seismic ground shaking
  - Seismic-related ground failure, including liquefaction
  - Landslides, mudslides or other similar hazards
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on expansive soil, creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

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[16] Department of Conservation, *Special Report 173 - Mineral Land Classification of Stanislaus County, California, 1993*, pages 73 and 81 and Plate 2C.

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

C. Impact Discussion

The following provides an analysis of the 2005 General Plan and its relationship to various seismic and geological hazards, as well as mineral resources.

1. Seismic Hazards

As discussed previously, the risk of ground rupture is less than significant since Hughson is not within an Alquist-Priolo Zone. However, recognizing that there is still a risk to the community from primary and secondary seismic hazards, the 2005 General Plan includes several policies and actions to minimize this risk. For example, Policy S-1.1 requires that new development would be subject to adequate professional geologic and engineering studies, and Policy S-1.2 requires the City to enforce building codes adopted by the State of California for all new construction and renovations. With regard to the potential hazards associated with unreinforced masonry buildings, the 2005 General Plan includes Action S-1.1, which directs the City to consider conducting a study to identify unreinforced masonry buildings and other unstable structures within the City and promote their strengthening.

In addition to including policies and actions to ensure that development occurs in a safe manner, the 2005 General Plan also includes policies and actions to ensure the City's ability to respond effectively to natural emergencies, such as earthquakes, since preparedness is one of the best methods to minimize personal injury and property damage. Policies S-4.1and S-4.2 state that the City will prepare, implement and regularly update local preparedness and evacuation plans, as well as participate in regional efforts in emergency planning. Actions S-4.1 and S-4.2 state that the City would conduct periodic drills

of the emergency response system and consider implementing programs to increase public awareness of emergency preparedness.

As a result of these polices and actions included in the 2005 General Plan, the potential impacts associated with seismic hazards, especially in regards to the future increases of population and housing within the city limits and SOI, would be reduced to a less-than-significant level.

2. Soil Conditions

As previously discussed, the soils in Hughson are fairly stable and flat, with low potentials for landslides, erosion and expansion. Liquefaction is mainly a risk along the Tuolumne River, where no development, other than the existing wastewater treatment plant, is proposed in the 2005 General Plan.

However, while hazards related to soil conditions are low, the policies contained in the 2005 General Plan would ensure that these hazards would be reduce to a less-than-significant level. As mentioned above, the 2005 General Plan includes Policies S-1.1 and S-1.2, which require development to complete geologic and engineering studies and comply with the CBC, both of which would result in development addressing soil conditions and incorporating necessary design features.

Since the City requires all new development to connect with the municipal wastewater system, there would be no impact associated with the local soil capacity to support septic systems.

3. Mineral Resources

The only potentially significant mineral resources within the project area are the MRZ-3a SG(C14) aggregate resources throughout the majority of the city limits and all of the SOI, and the MRZ-3a SG(C17) aggregate resources along the Tuolumne River near the City's existing wastewater treatment plant. As development occurs within these areas, under the 2005 General Plan, the ability to mine the areas for the potential aggregate resources would be reduced since mining on developed property is often cost prohibitive, and mining is

generally not compatible with surrounding urban development, especially residential uses.

However, neither of these mineral categories have a great potential for significant mineral resources due to the type and quantity of resource, and cost of extraction. The MRZ-3a SG(C14) category includes the majority of the valley land in the Hughson region, and while the soil does include aggregate materials, its value is mainly for allowing agricultural uses versus mining. The MRZ-3a SG(C17) area along the Tuolumne River would only be affected by any future expansion of the wastewater treatment plant. However, future urban development would probably only occur within the existing plant property. In addition, as previously stated, the majority of the aggregate resources along the Tuolumne River have been depleted. As a result, the potential for the 2005 General Plan to impact important mineral resources is less than significant.

D. Cumulative Impact Discussion

Regional development would increase the number of people and structures subject to geologic- and soils-related risks. The policies contained in the 2005 General Plan, along with compliance with federal, State and local regulations addressing building construction, run-off and grading, reduced the potential project-level impact associated with geology and soils to a less-than-significant level. Development in other communities in Stanislaus County would also be required to comply with federal, State and local regulations that are designed to protect increases in people and structures from hazards related to such issues as earthquakes, landslides and soil erosion. However, conformance with adopted California building codes, and other measures to protect people and structures from geologic hazards, would reduce this impact to a less-than-significant level.

E. Impacts and Mitigation Measures

Since the implementation of 2005 General Plan would not result in significant impacts related to geology and soils, no mitigation measures are required.

4.7 HAZARDS AND HAZARDOUS MATERIALS

This section describes the existing environment in Hughson and SOI with regard to hazards and hazardous materials, and analyzes the potential impacts of the 2005 General Plan.

A. Existing Setting

The following summarizes information on hazardous materials within Hughson and applicable regulations.

1. Regulatory Setting

Various federal, State, County and local agencies oversee hazards and hazardous materials issues in Hughson, and have established regulations at various levels designed to protect human health and the environment from the effects of hazardous materials. Hughson itself does not have direct authority over most hazardous materials issues, but has adopted local policies to assure local compliance with hazards and hazardous material regulations and to limit risk presented by the handling of such materials.

a. Federal

Following are the national agencies which oversee hazards and hazardous materials concerns.

i. Environmental Protection Agency

The United States Environmental Protection Agency's (EPA) laws and regulations ensure the safe production, handling, disposal and transportation of hazardous materials. Laws and regulations established by the EPA are enforced in Hughson by the California Environmental Protection Agency (CEPA).

The Superfund Program was established by the EPA in 1980 to locate, investigate and clean up the worst sites contaminated by hazardous waste nationwide. The EPA selects these sites based on the evaluation of factors such as: human health and environmental risk, immediacy of any needed response,

projected expenses to the Fund, ability to maintain a strong enforcement program, leverage of other cleanups, and the level of support for listing from the local government and community.

ii. US Department of Transportation

The United States Department of Transportation (DOT) regulates the transportation of hazardous materials by truck and rail. The DOT also establishes criteria for safe handling procedures of hazardous materials.

b. State

One of the primary hazardous materials regulatory agencies is the CEPA, which is authorized by the EPA to enforce and implement federal hazardous materials laws and regulations. The following organizations are departments of the CEPA:

- **Department of Toxic Substances Control (DTSC).** DTSC protects California and Californians from exposures to hazardous waste primarily under the authority of the federal Resource Conservation Recovery Act of 1976 and the California Health and Safety Code. DTSC programs include dealing with aftermath clean-ups of improper hazardous waste management, evaluation of samples taken from sites, enforcement of regulations regarding use, storage and disposal of hazardous materials, and encouragement of pollution prevention.
- **Department of Pesticide Regulation (DPR).** DPR regulates pesticide sales and use in the State and fosters reduced-risk pest management. The DPR's oversight includes product evaluation and registration, environmental monitoring, residue testing of fresh produce, and local use enforcement through the County agricultural commissioners. The DPR provides training, coordination, supervision, and technical and legal support for the County Agricultural Commission.

c. Stanislaus County

Following are the County-level agencies that oversee hazards and hazardous materials in Stanislaus County:

i. Stanislaus County Hazardous Material Area Plan

Stanislaus County maintains a Hazardous Material Area Plan, in accordance with the California Health and Safety Code (HSC) (Division 20, Chapter 6.95, §25500 et seq.) and the California Code of Regulations (CCR) (Title 19, Article 3, §2270 et seq.), which is updated every five years. The Plan protects human health and the environment through hazardous materials emergency planning, response and agency coordination, and community right-to-know programs. It outlines the roles and responsibilities of federal, State, County and local agencies in responding to hazardous material releases and incidents.

ii. Stanislaus County Agricultural Commission

The Stanislaus County Agricultural Commission is largely responsible for controlling and monitoring pesticide and other agricultural chemical use. Services offered by the Commission include the registration of pest control operators and advisors, the supervision of pesticide dealers, and monitoring of pesticide use by the public through inspections and the issuance of pesticide permits. The Commission is also responsible for local use enforcement of State pesticide laws. Training, coordination, supervision, and technical and legal support for the Commission is provided by the State DPR.

iii. Stanislaus County Hazards Mitigation Plan

Stanislaus County has an established plan to reduce the impacts of hazards by preventing injury, loss of life and damage to homes, businesses and neighborhoods. The Stanislaus County Hazards Mitigation Plan was written in March 2005 and identifies threats to public safety and strategies to reduce the dangers presented by earthquakes, landslides, dam failures, floods and wildfire.[1]

d. City of Hughson

The City of Hughson has the following plans in place to address and reduce risks involving hazards and hazardous materials:

[1]http://www.scoes.info/pdf/LOCAL%20HAZARD%20MITIGATION%20PLAN%203-18-05.pdf, accessed on June 5, 2005.

i. Hughson Emergency Operations Plan

The City of Hughson has its own Emergency Operations Plan (EOP) to establish emergency preparedness procedures and designated evacuation routes. Hughson's EOP was adopted in 2004 and includes procedures to respond to a variety of natural and human-created disasters that could confront the community. In the event of an emergency, Hughson employees, including representatives from the Fire, Police and Public Works Departments, will assess the situation and the damage, and respond according to the emergency plan. Coordination with other agencies would occur as necessary.

ii. Standard Conditions of Approval

The City's Standard Conditions of Approval regulate construction standards by placing building requirements on new development. These Standards work to ensure that public safety is considered in the design of new development or redevelopment, as well as during associated construction activities.

iii. Hughson Fire Code

The City of Hughson has adopted a Uniform Fire Code, with some amendments, as part of its Municipal Code. The amendments reflect the specific conditions in Hughson in order to ensure that development occurs in a manner that reduces the threat of urban and wildland fire. The City's Code includes a 30-foot firebreak requirement for structures located on or adjacent to any forest- or brush-covered land, or land covered with flammable growth.

2. Existing Hazards

Both natural conditions and human activities can create risks to individuals and properties within Hughson. The following considers existing hazards in the City of Hughson and its SOI, including potential hazards related to hazardous materials, wildfires and airports.

a. Hazardous Materials and Wastes

Products as diverse as gasoline, paint solvents, film solvents, household cleaning products, refrigerants and radioactive substances are categorized as hazardous materials. What remains of a hazardous material after use or process-

ing is considered to be a hazardous waste. The handling, transportation and disposal of such materials and wastes are of concern in all communities. Improper handling of hazardous materials or wastes may result in significant effects to human health and the environment.

A search of the EPA website determined that there are currently no Superfund sites within Hughson and its SOI. The nearest Superfund sites are in the cities of Modesto, Riverbank and Turlock.[2] A search of the DTSC's CalSites database, which contains information on properties in California where hazardous substances have been released or where the potential for a release exists, identified two sites within the Hughson zip code: the Hughson Chemical Company and Oxychem. Both of these sites are classified as properties where contamination has not been confirmed and were determined as not requiring direct DTSC action or oversight. No further action was taken after 1983 for the Oxychem site, and the Hughson Chemical Company site was referred to the County in 1995 after a preliminary assessment in 1988 recommended no further EPA action. Both are regulated by the EPA, as discussed below.[3]

Many of the commercial and industrial operations in Hughson use hazardous materials and generate hazardous waste as part of their daily operations. Some examples of commonly encountered hazardous material users include gasoline stations, dry cleaners and automotive repair shops. The commercial use of hazardous materials and production of wastes in Hughson are regulated by a range of federal, State, County and local agencies, as discussed above. There are several EPA-regulated facilities identified in the Hughson area, including Dairy Farmers of America, FMC Corporation—Agrichemical Group, Harp and Son Trucking, Hughson Chemical Company, Hughson Medical Office and JR Simplot. The majority of these are regulated as hazardous waste handlers. Dairy Farmers of America is listed as having toxic releases reported. A review of the records shows that the dairy generates nitrate

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[2]http://cfpub.epa.gov/supercpad/cursites/srchrslt.cfm?start=1&CFID=2030757&CFTOKEN=42166663, accessed June 1, 2005.

[3] http://www.dtsc.ca.gov/database/Calsites/calf002.cfm, accessed June 9, 2005.

compounds and nitric acid for treatment at the Hughson wastewater treatment plant, and in the early 1990's released some ammonia into the air.[4]

Agricultural operations often use a range of hazardous materials, such as pesticides, herbicides and fertilizers. This poses a special risk for Hughson with regard to hazardous materials since the community is surrounded by agricultural operations. As with commercial hazardous materials and waste, there are existing regulations that control the use of agricultural hazardous materials and waste, as discussed above.

Individuals also use hazardous materials in and around their homes, such as cleaning supplies and paint. Stanislaus County encourages safe and proper disposal of household hazardous materials and operates a household hazardous materials drop-off facility in Modesto. The County also provides mobile collection services to communities in the county once or twice a year.[5]

In addition to hazardous materials used and generated within Hughson, hazardous materials and wastes also pass through the community en route to other destinations via the railroad and major arterials, such as Hatch and Geer Roads. The City does not have direct authority over the transport of hazardous materials on the major roads and rail line within Hughson. As mentioned above, transportation of hazardous materials by truck and rail is regulated by the DOT.

b. Wildfires

Since Hughson is mainly surrounded by orchards and other agricultural activities, and does not abut wildlands, the most common types of fire in the area are structural or urban fires. Orchards and other agricultural lands are generally well maintained, with little dead vegetation or other flammable materials allowed to remain on-site. There is limited natural vegetation

[4] http://oaspub.epa.gov/enviro/multisys_web.report, accessed June 7, 2005.

[5] http://www.co.stanislaus.ca.us/ER/PROJHHW.HTM, accessed June 1, 2005.

remaining in the Hughson vicinity, with the majority centered along the Tuolumne River to the north of the city.

c. Airports and Airstrips

The closest airport to Hughson is the Modesto City-County Airport, located approximately 6 miles west of Hughson. Limited regional airline service is provided from this airport. General aviation facilities are also located about 15 miles south in Turlock, and about 15 miles north in Oakdale, although neither airport services scheduled flights.

3. Emergency Preparedness

As discussed under the Regulatory Setting, the City has adopted an EOP to ensure that the community is prepared for natural and human-caused disasters.

B. Standards of Significance

The proposed 2005 General Plan would have an impact related to hazards or hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result would create a significant hazard to the public or the environment.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

- For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people living or working in the project area.
- For a project within the vicinity of a private airstrip, result in a safety hazard for people living or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

C. *Impact Discussion*

This section discusses the potential hazards and hazardous materials impacts associated with adoption and implementation of the 2005 General Plan. Implementation of this General Plan would allow for the development of new residential, commercial, office and industrial uses. This could increase the amount of hazardous materials used and wastes generated, as well as the number of people and structures exposed to these and other hazards.

1. Hazardous Materials and Waste

The following addresses the potential risks associated with the use, transportation and disposal of hazardous materials and wastes within the Hughson area.

a. Transportation, Use and Disposal

The increase in development permitted under the 2005 General Plan could result in more hazardous materials being used, stored, transported through and discarded within Hughson, which would increase the potential for risks associated with hazardous materials and waste. As a result, the 2005 General Plan includes policies and actions intended to limit the impact hazardous materials could have on the population and environment.

i. Industrial and Commercial Use

Potential increases in industrial and commercial uses of hazardous materials would mainly be controlled by federal, State and County agencies, as discussed above, which would ensure that hazardous material use and transpor-

tation are controlled to a safe level. As stated in Policy S-3.2 of the 2005 General Plan, the City would require compliance with federal and State regulations by producers and users of hazardous materials within Hughson.

Policy S-3.1 would also limit potential impacts of hazardous materials within the community by directing hazardous material production and use away from residential areas. Furthermore, Action S-3.1 instructs the City to explore the establishment of formally-designated carrier routes to direct the transport of hazardous materials in and around the City of Hughson away from sensitive receptors. Addressing risks posed by construction of new development, Standard No. 59 of the Standard Conditions of Approval requires that all commercial and industrial projects include a hazardous materials management plan.

Due to the combination of federal, State, County and local requirements and standards with the policies and actions contained in the 2005 General Plan, adoption and implementation of the Plan would result in a less-than-significant impact related to the industrial and commercial use of hazardous materials.

ii. Agricultural Use

Implementation of the 2005 General Plan would allow additional residential development on the urban edge of Hughson, in close proximity to agricultural operations using pesticides. These hazardous materials could create risks to residents if improperly handled or disposed. While the City does not have any direct authority over the use of pesticides beyond its borders, CEPA, DPR and the County Agricultural Commissioner are responsible for controlling and monitoring pesticide use, and agricultural producers are required to comply with County and State regulations.

In addition, policies in the 2005 General Plan help to limit the potential risks of pesticide and fertilizer use. Policy S-3.3 states that the City would work with the State, agribusinesses and agricultural worker organizations to ensure that the agricultural use of pesticides and fertilizers would not negatively

affect public health and safety. To further decrease the amount of chemicals released into the environment, Policy S-3.4 encourages the transition of Hughson area agriculture to organic farming practices. In addition, urban development would only occur in areas adjacent to existing urban areas, as listed in Policy LU-1.3, which would help limit the conflict between agricultural and residential land uses. These policies and existing State and County enforcement activities would reduce the impact of hazards associated with pesticide use to a less-than-significant level.

iii. Household Use

Residential growth that is permitted during the lifetime of the 2005 General Plan could result in the increased use of household hazardous materials. Household use of hazardous materials is generally limited and is not typically considered a major hazard. However, to facilitate the proper disposal of household hazardous waste within the area, residents will have access to the household hazardous materials drop-off facility provided by Stanislaus County in Modesto and County mobile collection services. Due to the limited amount of hazardous materials that would be generated by individual households, and the availability of proper disposal facilities, the risk of increased household hazardous materials would be less than significant.

b. Hazardous Materials Accidents

Growth allowed under the 2005 General Plan could increase the use, transportation and disposal of hazardous materials and wastes in and around Hughson, which could likewise increase the risk of hazardous material accidents and spills. Although accidents involving hazardous materials and wastes cannot be completely avoided, the threat of accidents is reduced to a less-than-significant level by existing federal, State, County and local regulations that control the production, use, emissions and transportation of hazardous materials. As previously mentioned, the transport of hazardous materials by truck and rail is regulated by the DOT, and the CEPA is responsible for implementing federal hazardous materials laws and regulations. Hughson's EOP also plans for response to a potential hazardous materials incident, in the event one were to occur.

In addition, Policy S-3.1 of the 2005 General Plan would direct the location of hazardous material producers and users away from residential areas, and Action S-3.1 would eventually require hazardous materials to be transported along designated routes, which could be placed away from populated areas. By following federal- and State-mandated guidelines for the handling of hazardous materials, and by diverting such materials away from populated areas, the risk associated with the potential for accidental release of hazardous materials into the environment and community would be less than significant.

c. Hazardous Materials Around Schools

Future schools would most likely be located northeast of Santa Fe Avenue, in close proximity to proposed residential development and away from most existing and proposed industrial uses. As a result, most new schools would generally be at least ¼ mile from the industrial area to the southwest of Santa Fe Avenue where hazardous materials might be present. However, they may be within ¼ mile of non-industrial hazardous material users in commercial areas and the limited agricultural-industrial uses that may occur between Euclid Avenue and Geer Road. Existing schools, which are already within ¼ mile of industrial and commercial uses, may be further exposed to hazardous materials users as the city develops.

However, all users of hazardous materials are subject to federal, State, County and local laws, which ensure that hazardous material use, emission and transportation are controlled to a safe level. Furthermore, Policy S-3.1 would divert hazardous materials producers and users away from residential areas, which are where schools would mainly be located. The combination of federal, State, County and local regulations, and 2005 General Plan policies and land use patterns, would ensure that the risk to schools from hazardous materials or emissions would be less than significant.

d. Hazardous Materials Sites

As previously mentioned, there are a few EPA-regulated companies in Hughson and its SOI. However, there are no Superfund sites or sites requiring further DTSC action in the area. The two sites that were identified by the State

are properties where either no additional State action was recommended or where the companies are already regulated by the State. As such, they do no pose a significant threat to the community and any future development that would be allowed by the 2005 General Plan. Therefore, there is a less-than-significant impact associated with hazardous materials sites.

2. Wildland Fires

As discussed earlier, because Hughson is primarily surrounded by agricultural land, the danger from wildland fire is considered low. The lone remaining wildlands are found in limited amounts along the Tuolumne River, but the only potential development that may occur in this area would be an expansion of the wastewater treatment plant. However, any physical plant expansion would be limited in scope and would most likely be located on the southern parcel, which is not directly adjacent to the Tuolumne River. The existing City code requires a 30-foot setback for any new development occurring adjacent to wildlands. would require. Since there are no wildlands adjacent to areas proposed for residential or high intensity non-residential urban development, and the wastewater plant is not anticipated to expand directly adjacent to wildland areas, the impact due to wildland fires is less than significant.

While there is a less-than-significant risk of wildland fire within Hughson and the SOI, policies and actions under Goal PSF-2 of the 2005 General Plan are aimed at minimizing the loss of life and property from all fires and other public emergencies by ensuring the Hughson Fire Protection District firefighters quick and easy access to all areas within the Hughson Planning Area. Action PSF-2.1 specifically instructs the City to work with the Hughson Fire Protection District to ensure adequate service to new, as well as existing, developments.

3. Airport and Airstrip Safety

Implementation of the 2005 General Plan would not result in development within two miles of a public airport or private airstrip, as the nearest airport, the Modesto City-County Airport, is located 6 miles west of Hughson. As a result, there would be no impact related to airports or airstrip safety.

4. Emergency Preparedness

The 2005 General Plan could result in new development and population growth, which could affect the implementation of adopted emergency response and evacuations plan during disasters.

To ensure the safety of new projects during and after construction, Standard No. 12 of the Standard Conditions of Approval requires that adequate interim access for emergency vehicles is in place on sites prior to construction, and permanent emergency vehicle access is be established prior to occupancy of any site. Emergency vehicle access to all pedestrian/bikeway trail paths is required by Standard No. 54, and to all subdivisions by Standard No. 77.

Recognizing the need to plan for adequate emergency response to protect existing and future development in Hughson, the 2005 General Plan includes Policies S-4.1 and S-4.2 to ensure that the City would regularly update local preparedness and evacuation plans, including the adopted EOP, and participate in regional efforts in emergency planning. In addition, General Plan Actions S-4.1 and S-4.2 are intended to educate the community as to what should be done during a disaster to reduce the risk to life and property. Together, existing and proposed standards, policies and actions would reduce the potential emergency preparedness impact to a less-than-significant level.

D. Cumulative Impact Discussion

As discussed above, the increase in local population and employment under 2005 General Plan would result in the increased use of hazardous household, commercial and industrial materials. Potential project-level impacts associated with hazards and hazardous materials would be reduced to a less-than-significant level due to local, regional, State and federal regulations, such as those that control the production, use and transportation of hazardous materials and waste. Similarly, as growth occurs in the County, additional people would be exposed to the risk of hazardous materials, wastes and wildland fires. However, as would occur within Hughson, regional, State and federal

regulations would apply to development countywide development, thereby reducing the potential for cumulative impacts associated with hazards and hazardous materials to a less-than-significant level.

E. Impacts and Mitigation Measures

Since no significant impacts were identified related to hazards and hazardous materials as a result of the 2005 General Plan, no mitigation measures are required.

4.8 HYDROLOGY AND WATER QUALITY

This section summarizes information on hydrology, including flooding and water quality, in Hughson and its SOI, and provides an evaluation of the effects the 2005 General Plan would have on these environmental factors.

A. Existing Setting

The following describes the existing setting in Hughson in regards to water quality; drainage systems; flooding and dam inundation hazards; and seiches, tsumanis and mudflows. Applicable regulations, plans and policies are also discussed.

1. Regulatory Setting

There are several laws and policy documents that affect the requirements and infrastructure needs for water quality and stormwater discharge in the project area, as well as flood protection. The most important of these are described below.

a. Federal Water Pollution Control Act (Clean Water Act)

The Clean Water Act, initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the Clean Water Act establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) Program.[1] Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by a

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[1] Authorized by the Clean Water Act, the permit program controls water pollution by regulating point sources (discrete conveyances such as pipes or man-made ditches) that discharge pollutants into waters of the United States. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. In most cases, the NPDES permit program is administered by authorized states with oversight from the EPA. http://cfpub.epa.gov/npdes/, accessed on June 6, 2005.

NPDES permit. On December 8, 1999, the United States Environmental Protection Agency (EPA) circulated Phase II regulations for non-point sources requiring permits for stormwater, including discharges from Small Municipal Separate Storm Sewer System (MS4s) operators.[2] In California, the NPDES Program is administered by the State (see below).

b. Federal Emergency Management Agency

Flood plain zones are determined by the Federal Emergency Management Agency (FEMA) and used to create Flood Insurance Rate Maps (FIRMs) designating these areas. These tools assist cities in mitigating flooding hazards through land use planning and building permit requirements. To address the need for insurance to cover flooding issues, FEMA administers the National Flood Insurance Administration (NFIA) program. The NFIA program provides federal flood insurance and federally financed loans for property owners in flood prone areas. To quality for federal flood insurance, the City must identify flood hazard areas and implement a system of protective controls.

c. State Water Resources Control Board

The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for stormwater discharges, individual permits and general permits. The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2003-0004-DWQ) for MS4s covered under the Clean Water Act to efficiently regulate numerous stormwater discharges under a single permit. Permitees must meet the requirements in Provision D of the General Permit, which require development and implementation of a Storm Water Management Plan (SWMP) with the goal of reducing

[2] Small MS4s are publicly owned conveyances or conveyance systems of ditches, curbs or underground pipes that divert stormwater into the surface waters of the State. http://www.des.state.nh.us/StormWater/ms4.htm, accessed June 8, 2005.

the discharge of pollutants to the maximum extent practicable. Hughson submitted a Draft SWMP to the State on March 17, 2004.[3]

d. Regional Water Quality Control Board

The State's Porter-Cologne Water Quality Control Act outlines the specific responsibilities of the Regional Water Quality Control Boards, and the procedures for coordinating with the SWQCBs to meet federal Clean Water Act standards. Stanislaus County falls within the Central Valley Region, which is the largest in the state, stretching from the Oregon border south to Los Angeles County. It encompasses 60,000 square miles, or about 40 percent of the State's total area, and includes 38 of the State's 58 counties. The Central Valley Regional Water Quality Control Board (CVRWQCB)'s headquarters are in Sacramento with branch offices in Redding and Fresno.

The CVRWQCB's mission is to "preserve and enhance the quality of California's water resources for the benefit of present and future generations." This duty is carried out by formulating and adopting water quality control plans for specific ground and surface water basins, and by prescribing and enforcing standard requirements on waste discharges. As mentioned above, jurisdictions submit various water quality and stormwater plans to the regional and State boards for approvals.[4]

e. New Don Pedro Federal Energy Regulatory Commission Settlement Agreement

The Tuolumne River Technical Advisory Committee (TAC) was created by the 1996 New Don Pedro Federal Energy Regulatory Commission Settlement Agreement between 10 stakeholders. Among other considerations, the Agreement provided for minimum in-stream flows, a monitoring program and the identification of 10 non-flow restoration projects on the river, all de-

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[3] http://www.waterboards.ca.gov/stormwtr/docs/hughson_swmp.pdf, accessed June 10, 2005.

[4] http://www.waterboards.ca.gov/centralvalley/board_information/index.html, accessed on June 8, 2005.

signed to sustain and improve the salmon fishery. A Tuolumne River Corridor Restoration Plan was completed in March 2000 and is being used as a guide in rehabilitating the lower river.

The Tuolumne River Trust works in conjunction with the TAC to monitor these activities and any restoration projects. Vital to this monitoring and restoration work is the involvement of the Turlock and Modesto Irrigation Districts and the City and County of San Francisco. The Irrigation Districts are considered the major stewards of the river due to the federal power bestowed on them to build and operate the Don Pedro Dam and Powerhouse, which was completed in 1971. The Turlock Irrigation District (TID) is also currently administering a $25 million project to improve a 27-mile stretch of the river channel, as well as riparian and fisheries conditions.

f. City of Hughson Standard Conditions of Approval

The City's Standard Conditions of Approval must be met by project applicants in order to secure building or construction permits. The Standards contain guidelines and regulations aimed at the maintenance of high-quality water, which includes ensuring adequate stormwater systems. For example, new development is required to adopt Best Management Practices (BMPs)[5] to minimize grading and control runoff, which pollutes storm drains and can eventually lead to the pollution of groundwater sources. Proposals are also reviewed for adequate drainage systems that ensure the project will provide adequate on-site stormwater control. Specific relevant requirements are outlined in the Impact Discussion of this section.

2. Existing Water Quality

Hughson depends on the local groundwater basin for all of its drinking water. Data gathered by the City indicates that the current water supply system and

[5] Best Management Practices (BMPs) are methods (whether effective, practical, structural or nonstructural) used to protect water quality, especially during construction activities, by minimizing or preventing sediment, nutrients, pesticides and other pollutants moving from the land to surface or groundwater.

its contents are in compliance with existing State maximum contaminant levels (MCLs). Arsenic levels in Hughson average 11 parts per billion (ppb), which although compliant with current regulations of 50 ppb, are one point higher than new standards established by the EPA, which will take effect in 2006. Arsenic contamination can occur naturally due to arsenic contained in the local soil, as well as from industrial uses (especially those that use wood preservatives), agricultural applications, mining and smelting. The City is working with the Department of Health to determine how to address the issue of arsenic in the groundwater basin, which could include the installation of a mandatory arsenic removal system.[6]

The northern edge of the Hughson Planning Area abuts the Tuolumne River, which is listed as an impaired water body on the 1998 California 303(d) list by the Central Valley Regional Water Quality Board.[7] As previously mentioned, the Clean Water Act, the New Don Pedro Federal Energy Regulatory Commission Settlement Agreement and the State NPDES permits regulate activities in and around the River that could impact water quality.

3. Existing Drainage and Stormwater Disposal

As is discussed in greater detail in Section 4.14: Utilities, Hughson discharges its stormwater into TID canals, which are located along Hatch and Service Roads, through a Revocable License Agreement with the TID. The TID facilities then discharge into the San Joaquin and Tuolumne Rivers. As part of the Revocable License Agreement with the TID, the City is required to enforce regulations prohibiting dumping into any portion of the storm drainage system and ensure that stormwater discharged into the TID system does not exceed allowable levels of contaminants.

Current regulatory trends suggest that increased monitoring, handling, treatment and disposal of stormwater may be required in the future. Already,

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[6] *City of Hughson Water System Master Plan*, October 8, 2003.

[7] *Draft Stormwater Management Program for the City of Hughson—Report of Waste Discharge*, March 17, 2005.

because of additional growth within the region, TID facilities are starting to meet capacity for stormwater conveyance and most of the TID system is already obligated to serving various jurisdictions. Finally, to allow for necessary servicing during the non-irrigation season (November to March), TID needs to maintain portions of its facilities in a dry condition. Unfortunately, the non-irrigation season is the same as rainy season, when storm drainage is most needed.[8] Recognizing that TID could revoke the City's ability to discharge into TID facilities in the future, all new development must be designed to include on-site retention basins to hold and dispose of stormwater locally instead of through connections to TID facilities.

4. Flooding and Dam Inundation

As shown in Figure 4.8-1, the only part of Hughson within the 100-year flood plain is a portion of the wastewater treatment plant that contains ponding areas. As a result, the majority of Hughson and the SOI are not subject to flooding on a regular basis since they are outside the Tuolumne River flood plain.[9] Since no urban areas are within the 100-year flood plain, the City has not adopted the regulations required by FEMA for participation in the NFIA and does not currently participate in the NFIA program.

There is a slight risk in Hughson of flooding related to dam inundation from the Don Pedro Dam on the Tuolumne River, which is maintained by the TID. Flooding would only occur in the event of dam failure, and would affect the entire city and surrounding areas, as shown in Figure 4.8-2. To minimize the risk of dam failure, the California Department of Water Resources Division of Safety of Dams inspects the Don Pedro Dam on an annual basis for safety.

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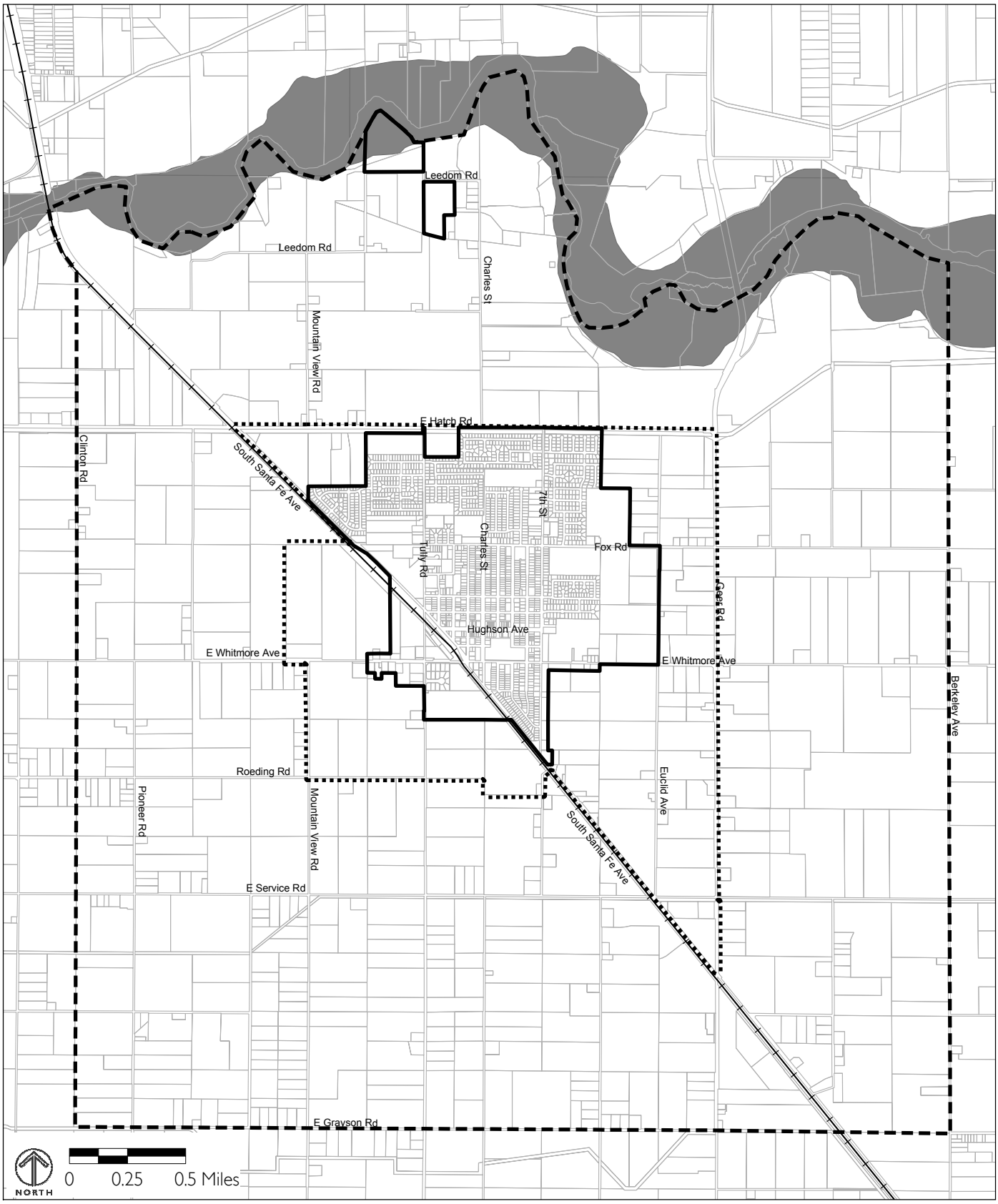
[8] Liebersbach, Debbie. Turlock Irrigation District. Personal communication with Catherine Reilly, DC&E. April 8, 2005.

[9] A 100-year flood plain is the area subject to flooding based on a storm event that is expected to occur every 100 years on average, based on historical data, or that has a one percent chance of being inundated during any particular 12-month period.



Data Source: FEMA Flood Hazard Mapping, Digital Q3 data.

FIGURE 4.8-1

Within 100-year flood zone

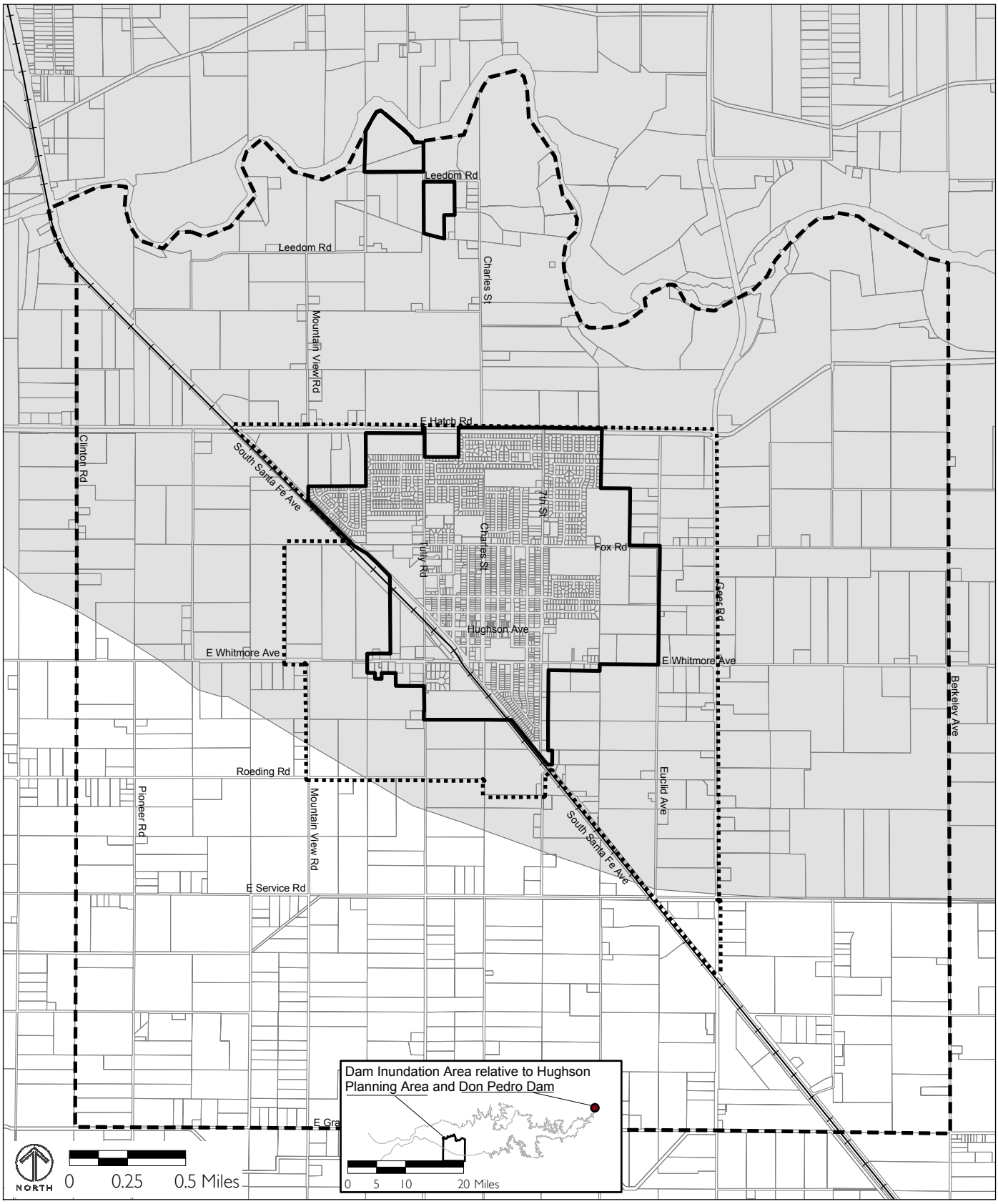
City Limits

Sphere Of Influence

Planning Area

100-YEAR FLOOD ZONE

CITY OF HUGHSON
GENERAL PLAN EIR



Data Source: Dam Inundation Areas. State of California, Office of Emergency Services

FIGURE 4.8-2

Don Pedro Dam Inundation Area

City Limits

Sphere Of Influence

Planning Area

DON PEDRO RESERVOIR DAM INUNDATION AREA

CITY OF HUGHSON
GENERAL PLAN EIR

5. Seiche, Tsunami and Mudflows

Seiches, or waves generated in bodies of water, usually by seismic events, similar to the back-and-forth sloshing of water in a tub, could possibly occur in swimming pools and water tanks; however, they also do not pose a serious threat to the Hughson area since the threat of a seiche is limited. Hughson is not at risk from tsunami due to its inland location. Finally, the Hughson area is also not at risk of mudflows due to its relatively flat topography and distance from any hillsides.

B. Standards of Significance

The implementation of the proposed 2005 General Plan would have a significant impact on hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements.
- Substantially alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion, siltation or flooding on- or off-site.
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Inundate by seiche, tsunami or mudflow.

C. *Impact Discussion*

This section discusses the potential impacts of the proposed adoption and implementation of the 2005 General Plan on hydrology, water quality, flooding and related issues in Hughson.

1. Water Quality

Water quality can be impacted by the discharge of soils and other pollutants, often associated with urban runoff and construction activities. Pollutants associated with urban uses include oil, grease, pesticides and fertilizers. In addition, grading and construction activity can cause erosion, increasing the sediment load of runoff. These non-point source pollutants in the runoff may flow into local surface waters or seep into the groundwater table and incrementally deteriorate water quality. As development occurs as allowed by the 2005 General Plan, the possibility of additional urban and construction related runoff would increase.

To minimize the increase of erosion and runoff pollutants, the City of Hughson Standard Conditions of Approval contain specific requirements for the use of BMPs and other approaches to minimize erosion and runoff during construction and operation of new development. Standard No. 13 requires that new development be designed and constructed using BMPs to avoid negative impacts to water quality. Standard No. 86 requires project proponents to prepare and implement an erosion control plan for each separate phase of a project. In addition, Standard No. 87 states that project proponents are required to take responsibility for obtaining any necessary permits from all public agencies with jurisdiction over the project, including the Regional Water Quality Control Board. Standard No. 87 also requires any off-site drainage improvements initiated after the start of the calendar year be completed prior to October 15th of the same year, before the rainy season typically begins.

In addition, the 2005 General Plan includes policies and actions to control general erosion and runoff pollution. Policy PSF-8.4 states that the City

would take all necessary measures to regulate runoff from urban uses to protect the quality of surface and groundwater and other resources from detrimental conditions. Policy COS-6.1 addresses potential erosion and runoff impacts from new development by requiring new development proposals be designed and constructed using BMPs to avoid negative impacts to water quality. Policy COS-6.3 commits the City to enforcing project design and construction regulations that limit amounts of impervious services and control erosion to minimize associated runoff and groundwater pollution. Action COS-1.1 directs the City to provide information for residents and businesses on the use of natural pest-resistant landscaping and design features to reduce the need for chemical treatments, which contribute to runoff pollution.

The 2005 General Plan Policy PSF-8.2 also states that the City would continue to discharge stormwater into TID facilities to the extent allowed by the TID, as well as explore and implement methods to improve the quality of the stormwater runoff discharged into TID facilities. Policy PSF-8.3 directs the City to explore feasible alternative means to discharge stormwater, recognizing that current regulatory trends may lead to the need for more stringent monitoring, handing, treatment and disposal of stormwater. In all, development proposed under the 2005 General Plan would not significantly contribute to the degradation of water quality.

While the 2005 General Plan would allow new development that could contribute to erosion and additional urban pollutants that may end up in the surface or groundwater systems, implementation of the City's existing Standard Conditions of Approval and the policies and actions contained in the 2005 General Plan would ensure less-than-significant impacts to water quality.

2. Drainage and Stormwater Disposal

Additional development and related construction activities allowed by the 2005 General Plan could affect the drainage system in the Hughson area with increased runoff, resulting in the need for additional stormwater drainage facilities. However, policies and regulations contained in the City of Hugh-

son Standard Conditions of Approval and the 2005 General Plan work to address these environmental concerns.

Standard Condition of Approval No. 85 requires all project proponents to submit a final grading and drainage plan. Standard No. 87 also requires projects to prepare a drainage improvement plan with on-site retention and percolation facilities designed for a 100-year storm under post-development conditions. By requiring new development to design for on-site stormwater retention as though TID facilities were not available, new development allowed under the 2005 General Plan would not result in TID facilities being exceeded.

Similarly, 2005 General Plan Policy PSF-8.1 requires that local storm drainage improvements be built to carry appropriate design-year flows resulting from buildout of the General Plan. The 2005 General Plan Action PSF-8.1 also directs Hughson to adopt and maintain a stormwater drainage master plan, which would include areas of future planned growth, and to develop adequate financial resources to implement the master plan. New development would also be required to provide for its stormwater impacts on an individual basis, during and after construction per Policy PSF-8.5. During construction, temporary drainage facilities would be installed as necessary, as stated in Policy PSF-8.6.

Implementation of the City's existing Standard Conditions of Approval requirements and 2005 General Plan policies and actions would reduce the potential for impacts associated with drainage system changes and increased runoff to a less-than-significant level.

3. Flooding and Dam Inundation Risk

As mentioned above, none of Hughson or the SOI, except the wastewater treatment plant area, is subject to flooding on a regular basis since they are outside the Tuolumne River 100-year flood plain. The 2005 General Plan does not propose housing or other urban structures within the 100-year flood hazard area as mapped by FEMA. The only potential growth near the 100-

year flood plain would be an expansion of the wastewater treatment plant, but this would most likely occur on the southern parcel, which is outside the 100-year flood plain boundary. Since there would not be new development within the 100-year flood plain, there would be a less-than-significant impact related to flooding within a 100-year flood plain.

While there is not a significant risk of flooding from the Tuolumne River, Action S-2.1 of the 2005 General Plan directs the City to explore the possibility of adopting flood control regulations so that the City would qualify for NFIA insurance in the event it ever annexes land within the 100-year flood plain.

Failure of the Don Pedro Dam on the Tuolumne River would flood the majority of Hughson and its SOI. However, failure of the Don Pedro Dam is unlikely since the California Department of Water Resources Division of Safety of Dams inspects it on an annual basis. As a result, development permitted by the 2005 General Plan is not subject to a significant risk of dam failures.

4. Seiche, Tsunami or Mudflow Hazards

As previously mentioned, the potential risk of seiche is low in Hughson and the area is not at risk of tsunamis and mudflows. As a result, adoption and implementation of the 2005 General Plan would not result in a significant impact related to seiches, tsunamis and mudflows.

D. Cumulative Impact Discussion

As development proceeds within Hughson and the SOI, impervious surfaces would increase, as would the amount of pollutants in runoff, thereby increasing stormwater drainage rates and potentially impacting surface and groundwater quality. Additional population would also be exposed to the risk of dam inundation. However, project-level water quality impacts to water resources would be reduced to a less-than-significant level by existing dam

maintenance policies and by implementing BMPs in accordance with the NDPES and other applicable regulations, as well as implementation of the water quality policies contained in 2005 General Plan. New development within the County would also result in an increase in runoff and may locate additional population and structures within areas subject to flooding. Regional development would also be required to comply with regional, State and federal regulations addressing stormwater runoff, water quality and flooding. These regulations would reduce the potential for a cumulative hydrology and water quality impact to a less-than-significant level.

E. Impacts and Mitigation Measures

Since no significant impacts were identified related to hydrology and water quality as a result of the 2005 General Plan, no mitigation measures are required.

4.9 LAND USE

This section presents information on the relevant regulations and existing land use conditions in Hughson, as well as the potential environmental impacts associated with the proposed 2005 General Plan.

A. Existing Setting

Following is a description of existing land uses in Hughson, the land use designations in the current 1984 General Plan, and existing plans and policies related to land use.

1. Regulatory Setting

The following land use plans and policies currently apply in Hughson and the Hughson SOI.

a. County Regulations

Relevant land use policies in the Stanislaus County General Plan, as well as specific county-wide Habitat Conservation Plans are described below.

i. Stanislaus County General Plan

Stanislaus County has designated unincorporated land outside of the existing Hughson city limits as either Urban Transition, Agriculture or Planned Development (PD). All of the parcels within Hughson's current LAFCO-adopted SOI are designated by the County General Plan as Urban Transition.[1] The purpose of the County's Urban Transition designation is to ensure that land remains in agricultural usage until urban development consistent with Hughson's General Plan is approved. These Urban Transition parcels are zoned by the County as General Agriculture (A-2-10), which permits agricultural uses and a single family unit when the minimum lot or building site size are met.[2]

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[1] *Stanislaus County General Plan*, 1984. Page 1-24.

[2] *Stanislaus County General Plan*, 1984, accessed on May 11, 2005. http://www.co.stanislaus.ca.us/planning/CountyGeneralPlanPDF/genplanone.pdf

The remaining unincorporated parcels within the proposed SOI are designated by the County's General Plan for Agriculture, except for four parcels in the southern triangle between Santa Fe Avenue, Geer Road and Service Road, which are designated as PD. The Agriculture designation's primary goal is to allow for the continued use of land for agricultural uses by avoiding incompatible urban land uses. Limited development, such as dwelling units, commercial services and light industrial uses may be allowed if compatible and related to agricultural activities. The County's Agriculturally-designated land around Hughson is zoned General Agriculture (A-2-40). This zone permits a range of agricultural uses and a single-family dwelling unit, when the minimum lot size is met.

The PD designation signifies that, because of demonstrably unique characteristics, a parcel may be suitable for a variety of uses without resulting in detrimental effects on other properties. Generally, development within this area would only occur as land is annexed into the city, pursuant to the City's General Plan. Land within a PD designation remains in A-2 zoning until a development proposal has been accepted by the County, at which point the area would be rezoned PD. The County will determine the allowable density and intensity of use for PD on a case-by-case basis.[3]

ii. Conservation Plans

There are not currently any Habitat Conservation Plans or Natural Community Conservation Plans in the Hughson area.

b. City Regulations

Land uses within Hughson are currently regulated by the following policies and ordinances:

[3] Stanislaus County Zoning Ordinance, accessed May 10, 2005. http://www.co.stanislaus.ca.us/planning/ZoningOrdinancePDF/21.20A-2.pdf

i. 1984 City of Hughson General Plan

All development in the city and within annexed portions of the SOI must conform to the land use designations outlined in the 1984 General Plan. Goals, principles, objectives, policies and implementation measures contained in the Land Use Element of the 1984 General Plan provide additional direction on how the various land use designations should be developed to contribute to the overall character of Hughson. Per State law, the City's General Plan is the primary planning document and all other City plans and policies must be consistent with the adopted General Plan.

ii. Sphere of Influence

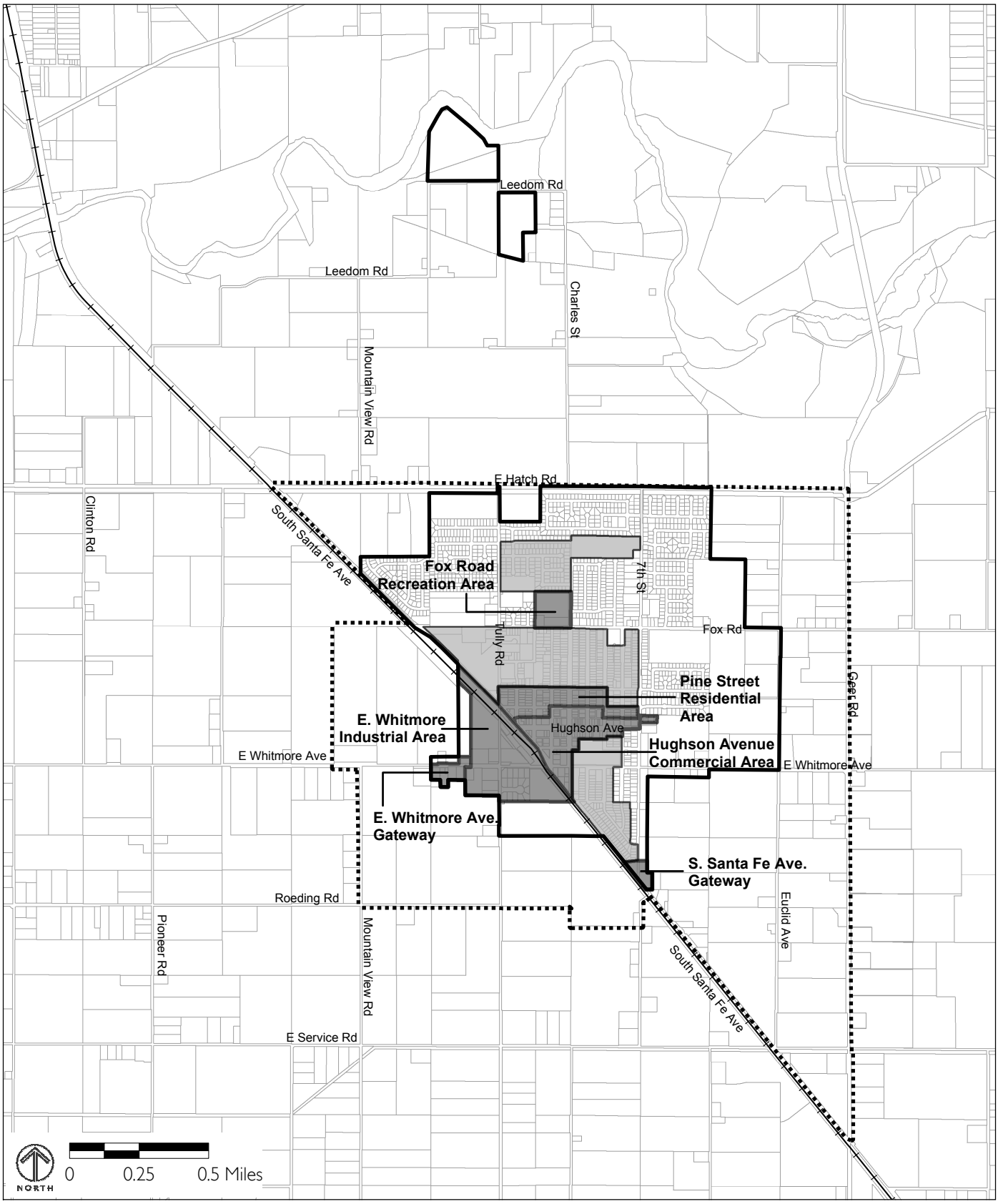
Hughson has an identified SOI established beyond its city limits, which has been approved by Stanislaus LAFCO. SOIs are often revised as part of a General Plan update process. Although the City does not have any jurisdiction within its SOI, a SOI indicates the area where the City is anticipated to annex and urbanize in the future. It is a way to encourage cities and counties to work together to control and plan for growth in a considered way.

iii. Zoning Code

Under State law, the Zoning Code and other City regulations must be consistent with the General Plan. Zoning functions to classify, regulate, restrict and segregate land uses, building characteristics and population densities according to and consistent with the land use goals established by the community in the General Plan. Ten zoning designations are currently used in Hughson, which can be grouped into five basic types of land uses: residential, commercial and office, industrial, planned development and open space. The residential category is further subdivided by density, commercial categories are determined by type and location, and parks and public facilities are permitted in any of the ten categories.

iv. Redevelopment Project Area

In 2002, Hughson created a Redevelopment Agency and adopted a Redevelopment Plan for a designated project area, which is shown in Figure 4.9-1.



Data Source: City of Hughson; Stanislaus County GIS

FIGURE 4.9-1

Redevelopment Project Area

Principal Improvement Zones

City Limits

Sphere Of Influence

HUGHSON REDEVELOPMENT PROJECT AREA

CITY OF HUGHSON
GENERAL PLAN EIR

The Redevelopment Project Area includes the city's downtown commercial area, its primary industrial area and some of the older residential neighborhoods, for a total area of approximately 313 acres.

Within the Redevelopment Project Area, the Redevelopment Agency has identified several Principal Improvement Zones as part of its 2003 Redevelopment Implementation Strategy. The Principal Improvement Zones are areas where the Redevelopment Agency can most effectively promote and facilitate immediate marketing and redevelopment activities. These areas are also shown in Figure 4.9-1.

The Redevelopment Implementation Strategy contains a range of short-, mid- and long-term programs that the City will undertake to achieve the Redevelopment Plan's goals to reduce blight, provide affordable housing and generally improve the quality of life for City residents. The Redevelopment Agency does not have eminent domain authority where people reside, so all of the programs affecting areas with residential units are based on voluntary participation of property owners. Where there are no residents, eminent domain is only allowed within the first 12 years from the Redevelopment Project Area adoption.

v. Design Expectations

In 2004, Hughson adopted Design Expectations that inform developers of the City's expectations for new residential development. The Design Expectations include general principles, and provide more specific examples of how to achieve a pedestrian-friendly community that builds on Hughson's traditional character. Prior to submitting a project application, developers are required to complete the Self Certification Checklist contained in the Design Expectations to ensure that each development incorporates the spirit of the desired design principles.

2. Existing Land Use

Hughson, covering a total of approximately 899 acres, is a predominately residential community characterized by a small, but traditional downtown

area surrounded by mainly single-family residential neighborhoods. As shown in Table 4.9-1 and Figure 4.9-2, approximately 35 percent of the land in Hughson (excluding transportation corridors) is single-family residential, with another 3 percent multi-family residential and mobile home parks. Land used for public facilities, agriculture and industrial uses together comprise another 30 percent of available acres, split almost equally between the three categories. Parkland and vacant parcels each comprise another 4 percent, and the Downtown commercial area currently occupies slightly over 1 percent, or 11 acres.

Existing employment opportunities are mostly found in the Downtown or in the industrial area, located along Whitmore Avenue to the southwest of the railroad. Currently, over 85 percent of Hughson residents travel to jobs outside of the city, including neighboring communities such as Modesto and Tracy. The limited amount of retail within Hughson is a concern for the community, because Hughson residents often have to shop in other towns. This results in a loss of potential dollars needed to pay for additional community services such as police and fire protection, as well as road maintenance.

The following provides an overview of the existing land use pattern in Hughson and the SOI.

a. Residential Neighborhoods

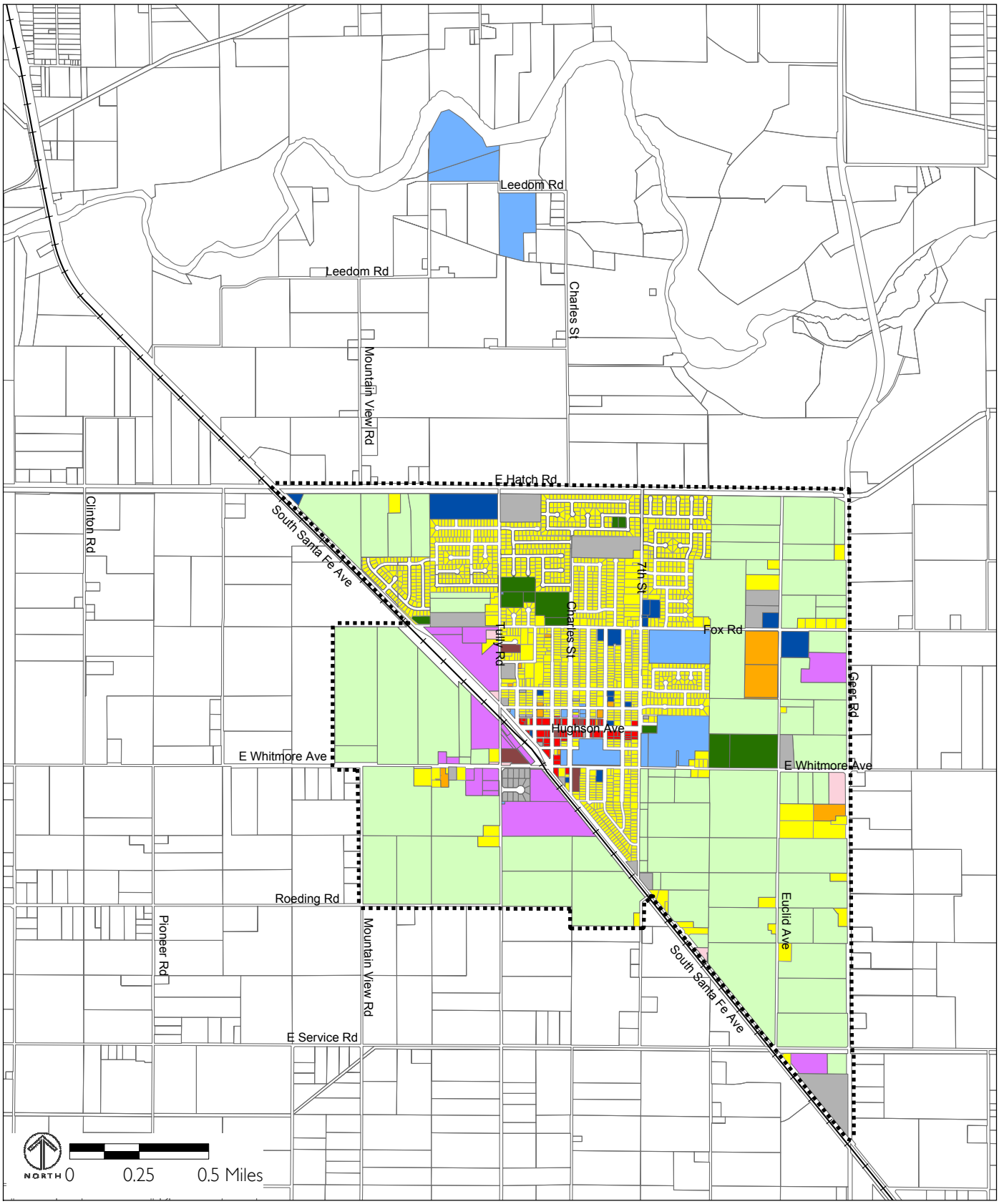
Hughson's residential neighborhoods can be divided into two main types:

- **Traditional residential neighborhoods** surround the Downtown and are built on a grid pattern. These neighborhoods have a mixture of housing types and densities, and include the majority of the city's older housing units. Smaller residential homes and lot sizes are concentrated around the Downtown. Most of the community's multi-family housing is also in this area.
- **Contemporary residential neighborhoods** generally consist of larger homes built on a discontinuous street system with cul-de-sacs. These areas are mostly located north of the Downtown and east of Seventh Street.

TABLE 4.9-1 **EXISTING LAND USE ACREAGES**

Land Use Category	City Limits	% of Total in City Limits	SOI	% of Total in SOI	Total Acres
Single Family or Duplex Residential	312	34.7%	46	4.5%	358
Multi-Family Residential	22	2.4%	4	0.4%	26
Mobile Home Park	5	0.6%	0	0%	5
Downtown Commercial	11	1.2%	0	0%	11
Other Commercial	2	0.2%	5	0.5%	7
Industrial	74	8.2%	16	1.6%	90
Park and Open Space	39	4.3%	0	0%	39
Public Facility	100	11.1%	6	0.6%	106
Religious Facility	22	2.4%	9	0.9%	31
Agriculture	97	10.8%	881	85.8%	978
Vacant/ Underdeveloped	32	3.6%	35	3.4%	67
Right-of-Way	193	21.4%	25	2.4%	218
Total	**899**	**100%**	**1,027**	**100%**	**1,926**

Note: Some of these land use categories were created to describe the existing pattern of development in Hughson and do not correspond to General Plan designations.



Data Source: Stanislaus County GIS

- Single Family and Duplex Residential
- Multi-Family Residential
- Mobile Home Park
- Downtown Commercial
- Other Commercial
- Industrial
- Park/Open Space
- Public Facility
- Religious Facility
- Agriculture
- Vacant
- Sphere Of Influence
- City Limits

FIGURE 4.9-2

EXISTING LAND USES

CITY OF HUGHSON
GENERAL PLAN EIR

Hughson's neighborhoods can also be viewed from the perspective of the residential land use type that they accommodate, as described below:

- **Single-Family and Duplex Residential.** In Hughson, this classification typically describes parcels that contain one or two residential units. Ninety-three percent of residential units within Hughson's city limits are single-family or duplex dwellings. According to the 2000 Census, only about 3 percent of one- and two-unit structures in Hughson were duplexes, with an additional 6 percent consisting of single-family attached units. There are a total of approximately 358 acres in this category, including 312 acres within the city limits and 46 acres outside the city limits in the SOI.
- **Multi-Family Residential.** Parcels included in this category contain residences with more than two dwelling units, such as apartment buildings. In Hughson, 6.5 percent of all dwelling units are multi-family. There are currently 22 acres of multi-family residential uses within the city limits and 4 additional acres in the SOI.
- **Mobile Home Parks.** Land included in this category contains multiple mobile homes or recreational vehicles used for long-term residences. Within the city limits, there are currently approximately 5 acres of mobile home parks.

b. Downtown Commercial

Hughson's "heart" is its historic Downtown. With a main axis of retail, office and restaurant uses along Hughson Avenue and a compact street pattern throughout, it is both the commercial and social center of Hughson. The downtown area occupies approximately 11 acres within Hughson's city limits.

Surrounding the Downtown are some of the oldest residential neighborhoods in the city, with the majority of the area's housing stock comprised of single-family homes and duplexes, with multi-family units interspersed. The majority of Hughson's multi-family units are located to the north of Downtown, along Locust Street. Hughson Elementary School is located north of East Whitmore Avenue.

The City, through its Redevelopment Agency, is undertaking a façade and downtown improvement project for the Downtown. The project is comprised of several separate efforts including: design guidelines, an outline of potential funding programs, an evaluation of building merit and potential infill sites, and a development concept plan that provides a comprehensive strategy for the Downtown, complete with pedestrian and bicycle facilities and locations for shared parking.

c. Other Commercial

Commercial uses outside the Downtown are extremely limited. Scattered retail, service or office buildings, classified as Other Commercial, are located along Santa Fe Avenue and on Geer Road. Typical uses include automobile services and small markets. There are approximately 7 acres of Other Commercial, 2 acres in the city limits and 5 acres in the SOI.

d. Industrial

Although Hughson has relatively limited employment opportunities, there are several areas dedicated to industrial uses. Most industrial lands are located southwest of the railroad and Santa Fe Avenue, with others scattered within the city limits and the SOI, such as a triangular parcel between Santa Fe Avenue and Tully Road, and agricultural industrial uses along Geer Road. Industrial activities in Hughson include: cold storage, light manufacturing, food processing and other agricultural-supporting facilities. There are approximately 90 acres of industrial uses in the area, 74 acres within the city limits and 16 acres in the SOI.

e. Public and Quasi-Public Uses

Hughson has a variety of public and quasi-public uses, including parks, public facilities and religious facilities.

- **Parks and Open Space.** This category refers to established public and private open spaces and recreational facilities, such as playing fields, mini-parks, neighborhood and community parks, and the Hughson Botanical Gardens. Currently, there are approximately 39 acres of park and open

space land, all of which lie within the city limits. Parks are distributed throughout the city, often in close proximity to public schools.

- **Public Facilities.** Public facilities are government-owned parcels that include civic uses such as libraries, police and fire stations, City Hall, the wastewater treatment plant and public schools. There are approximately 106 acres in this category, 100 acres located within the city limits, and an additional 6 acres located outside the city in the SOI. The largest concentrations include the various public schools and civic center complex near Downtown, and the wastewater treatment facility on the north side of the city, close to the Tuolumne River.
- **Religious Facilities.** This use includes all places of worship, such as churches or temples, as well as the private Hughson Christian school. It does not include private homes used for individual or small-group religious study. There are currently 22 acres of land containing religious facilities within the city limits and 9 acres outside the city limits in the SOI.

f. Agriculture

Hughson is surrounded by agricultural lands. Working and non-working agricultural lands used for row crops, orchards, grazing, dairy farms, single-family homes on large agricultural parcels, and agriculturally-related commercial and industrial uses are included in this category. Approximately 978 acres of agricultural lands exist in the Hughson area, 97 acres are within the city limits and 881 acres lie outside the city limits in the SOI.

g. Vacant and Underdeveloped Land

Parcels that contain abandoned structures, were previously urbanized and are no longer utilized, or are void of any structures and are not used for agriculture are all classified as vacant or underdeveloped. There are approximately 67 total acres of vacant land in the Hughson area, 32 acres in the city limits and 35 acres in the SOI. The majority of the larger vacant parcels are located on the north side of town in and around newer subdivisions. Several large vacant parcels also exist on the southwest side of town, adjacent to industrial uses, and there is a large underdeveloped parcel on the southernmost portion of the SOI where there are scattered vacant commercial buildings.

B. Standards of Significance

The proposed project would create a significant land use impact if it would:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

C. Impact Discussion

The following discussion provides an analysis of implementation of the 2005 General Plan with regards to potential impacts associated with land use patterns and planning regulations in Hughson and its SOI.

1. Community Division

As discussed in the Existing Setting section, Hughson developed mainly as a compact community, over time occupying vacant parcels within the urbanized portions of the city limits. Development permitted under the 2005 General Plan would be directed to infill sites and land contiguous with existing development along the urban edge.

Land use designations in the 2005 General Plan are established to reduce potential land use conflicts between existing and future development. Policy LU-3.1 states that new development should be compatible with physical site characteristics, surrounding land uses and available public infrastructure. New transportation features are designed to connect to the existing circulation system, building on community connectivity and linking existing neighborhoods. Similarly, Policy LU-3.5 states that new development should be designed to connect to the existing community, through the orientation and design of buildings and vehicular, pedestrian and bicycle connections. As a result, implementation of the 2005 General Plan would not result in a sig-

nificant land use impact associated with the physical division of an established community.

2. Consistency with Plans and Policies

Per State law, the General Plan is the primary planning document for an established community. Once adopted, the 2005 General Plan would replace the 1984 General Plan; other City documents may need to be updated to ensure consistency with the 2005 General Plan. To address this, Action LU-3.1 of the 2005 General Plan requires the City to update it's Municipal Code, Subdivision Ordinance and other ordinances to ensure consistency with the 2005 General Plan and assist with the implementation of the General Plan goals and policies. As part of the update, the Zoning Code would specifically be revised to address the following issues:

- Standards for the R-1 district would be revised to ensure consistency with Figure LU-5, Residential Infill Area.
- The R-2 district would be revised to control the development of purely single-family neighborhoods within the Medium Density Residential designation.
- Other zoning districts would also be updated, as necessary, to ensure consistency with the General Plan land use designations.
- A new zoning district consistent with the Agriculture designation would be created.

As mentioned in the Project Description, the City would request the Stanislaus County LAFCO to update the City's SOI to include the entire SOI identified in the 2005 General Plan, as well as designate much of the area for urban uses. Initially, the 2005 General Plan would not be consistent with the existing Stanislaus County General Plan, because the 2005 General Plan would designate some land within the expanded SOI currently designated by the County as Agriculture for urban uses. Although this could create an initial conflict with policies stated in the County's General Plan, Action LU-1.2 of the 2005 General Plan requests the County to update its General Plan to align with the 2005 General Plan, including the designation of land within the

new Hughson SOI west of Geer Road as an Urban Transition zone. Land east of Euclid Avenue would remain designated Agriculture, except for the triangular piece between Service Road, Santa Fe Avenue and Geer Road, which is already designated as PD.

If LAFCO does not approve the SOI proposed in the 2005 General Plan, the existing SOI would remain. In this case, the City's land use designations outside the LAFCO-approved SOI would not have any authority and the County designations would stay in place, without a need to conform with City designations. Therefore, either way, adoption and implementation of the 2005 General Plan would not result in a conflict with the County's General Plan policies.

In summary, implementation of policies and actions in the 2005 General Plan and the LAFCO process would result in less-than-significant land use impacts related to conflicts with other plans, policies and regulations applicable in the Hughson area.

D. Cumulative Impact Discussion

As the primary planning document for Hughson, the 2005 General Plan would have a less-than-significant impact in relation to potential conflicts with other applicable plans, policies and regulations, including the County's General Plan and LAFCO's SOI. Since the 2005 General Plan would not have a significant impact on these regional land use plans and policies, the Plan would not result in a significant cumulative impact.

E. Impacts and Mitigation Measures

Since no project-level significant land use impacts were identified as a result of the 2005 General Plan, no mitigation measures are required.

4.10 NOISE

This section describes the existing noise environment in Hughson and provides an evaluation of potential noise impacts from the 2005 General Plan. Analysis is based on the noise assessment completed by Illingworth & Rodkin.

A. Existing Setting

The following defines and discusses various terminology scales of measurement for noise. Information is provided about the regulatory bodies that set standards affecting Hughson and describes the current noise environment in the community.

1. Noise Definitions

Noise may be defined as unwanted sound; it is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is the intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave, in that it is a measure of the amplitude of the sound wave. Loudness is measured on several scales, which include decibels, A-weighted sound levels, Equivalent Noise Levels and Community Noise Equivalent Levels. These, and other technical terms are defined in Table 4.10-1.

A decibel (dB) is a unit of measurement that indicates the relative amplitude of a sound. A measure of 0 decibels indicates the lowest sound level that the healthy, unimpaired human ear can detect. Each 10-decibel increase in noise level is perceived as an approximate doubling of loudness over a fairly wide range of intensities.

TABLE 4.10-1 **DEFINITIONS OF ACOUSTICAL TERMS**

Term	Definitions
Decibel (dB)	A unit describing the amplitude of sound. Sound levels in decibels are calculated on a logarithmic basis. A 10-decibel increase represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense.
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level (dBA)	Decibel level as measured using the A-weighting filter network which de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlating well with subjective reactions to noise. All sound levels in this section are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50% and 90% of the time during a measurement period.
Equivalent Noise Level (L_{eq})	The average A-weighted noise level during a measurement period.
Community Noise Equivalent Level, (CNEL)	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels to sound levels measured from 7:00 p.m. to 10:00 p.m. and 10 decibels to sound levels measured between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level (L_{dn})	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	Noise which intrudes over and above the existing ambient noise at a given location. Relative intrusiveness depends on amplitude, duration, frequency, time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

In California, sound intensity is also commonly measured with the A-weighted sound level, or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Sound levels, particularly those that are characterized as "environmental" or general noise, can vary markedly over a short period of time. Thus, noise specialists often calculate averages to describe the character of sound over time. Equivalent Noise Levels, (L_{eq}) is the measure most commonly used to describe these average noise levels. Noise is usually averaged over the period of an hour, but L_{eq} can describe any series of noise events of arbitrary duration.

Since the sensitivity to noise increases during the evening and at night, 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Community Noise Equivalent Level (CNEL) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 p.m. to 10:00 p.m.) and a 10 dB addition to nocturnal (10:00 p.m. to 7:00 a.m.) noise levels. The Day/Night Average Sound Level (Ldn) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

2. Regulatory Setting

Federal, State and City government entities regulate the noise environment in Hughson. This section summarizes the imposed standards promoted guidelines.

a. Federal Regulations

The Occupational Safety and Health Administration (OSHA), the federal Department of Housing and Urban Development (HUD), and the Federal Transit Administration (FTA) all provide standards for noise.

i. Occupational Safety and Health Administration (OSHA)

OSHA has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over eight hours. If noise levels reach above 90 dBA, the allowable exposure time is correspondingly shorter.

ii. Department of Housing and Urban Development (HUD)

HUD environmental noise regulations, presented in the Code of Federal Regulations (24 CFR Part 51B), require that new housing construction meet the following noise standards. Exterior noise levels are considered:

- Acceptable at 65 dBA Ldn or less.
- Normally unacceptable if they exceed 65 dBA Ldn but not 75 dBA Ldn, unless appropriate sound attenuation measures are provided, which include 5 decibels additional attenuation over standard construction in the 65 to 70 dBA Ldn zone or 10 decibels of additional attenuation in the 70 to 75 dBA Ldn zone.
- Unacceptable if they exceed 75 dBA Ldn.

Interior noise levels and attenuation requirements are geared toward achieving an interior noise level of 45 dBA Ldn. The guidelines assume that standard construction will provide sufficient attenuation to achieve interior levels of 45 dBA Ldn, or less if the exterior noise level is 65 dBA Ldn or less. These regulations apply to new residential projects that receive federal funding. If housing developed in Hughson receives federal funding, the federal noise standards may be applicable in the city.

iii. Federal Transit Administration (FTA)

Groundborne vibration impacts are typically associated with fast moving railroad operations and large industrial equipment. The FTA has developed vibration impact assessment criteria for evaluating vibration impacts associated with rapid transit projects. These criteria for groundborne vibration impacts on occupants inside buildings are shown in Table 4.10-2, and are based on root-mean-square (rms) pulse duration, which is the average vibration levels calculated over a 1 second period to relate to average, maximum, vibration levels experienced by humans (Vdb). Note that there are separate criteria for frequent events (more than 70 events per day) and infrequent events (less than 70 events per day).

TABLE 4.10-2 **GROUNDBORNE VIBRATION IMPACT CRITERIA**

Land Use Category	Groundborne Vibration Impact Limits (Re 1,μinch/second, rms)	
	Frequent Events	Infrequent Events
Category 1: Buildings where low ambient is essential for interior operations	65 Vdb	65Vdb
Category 2: Residences and buildings where people normally sleep	72 Vdb	80 Vdb
Category 3: Institutional land uses with primarily daytime uses	75 Vdb	83 Vdb

Source: U.S. Department of Transportation, Federal Transit Administration, Transit Noise and Vibration Impact Assessment, April 1995, DOT-T

FTA criteria are based primarily on experience with passenger train operations, such as rapid transit and commuter rail systems. The main difference between passenger and freight operations is the time duration of individual events; a passenger train lasts a few seconds, whereas a long freight train may last several minutes depending on speed and length. Although the criteria are based on shorter duration events reflected by passenger trains, they are used in this assessment to evaluate the potential of vibration annoyance on the site due to large freight trains as well. It should also be noted that the FTA criteria described in Table 4.10-2 are not appropriate for evaluating the potential of structural or cosmetic damage to buildings due to train operations. It is extremely rare that train operations can cause any such damage except in the case of weakened structures or historic buildings. Even in such cases, structural damage is unlikely unless the buildings are located very close to the tracks.

b. State Regulations

In California, noise is regulated as an environmental impact under the California Environmental Quality Act (CEQA). Standards for construction are also included in the State Building Code, and the State Office of Noise Control provides guidelines about appropriate noise levels for particular land uses.

i. California Building Code

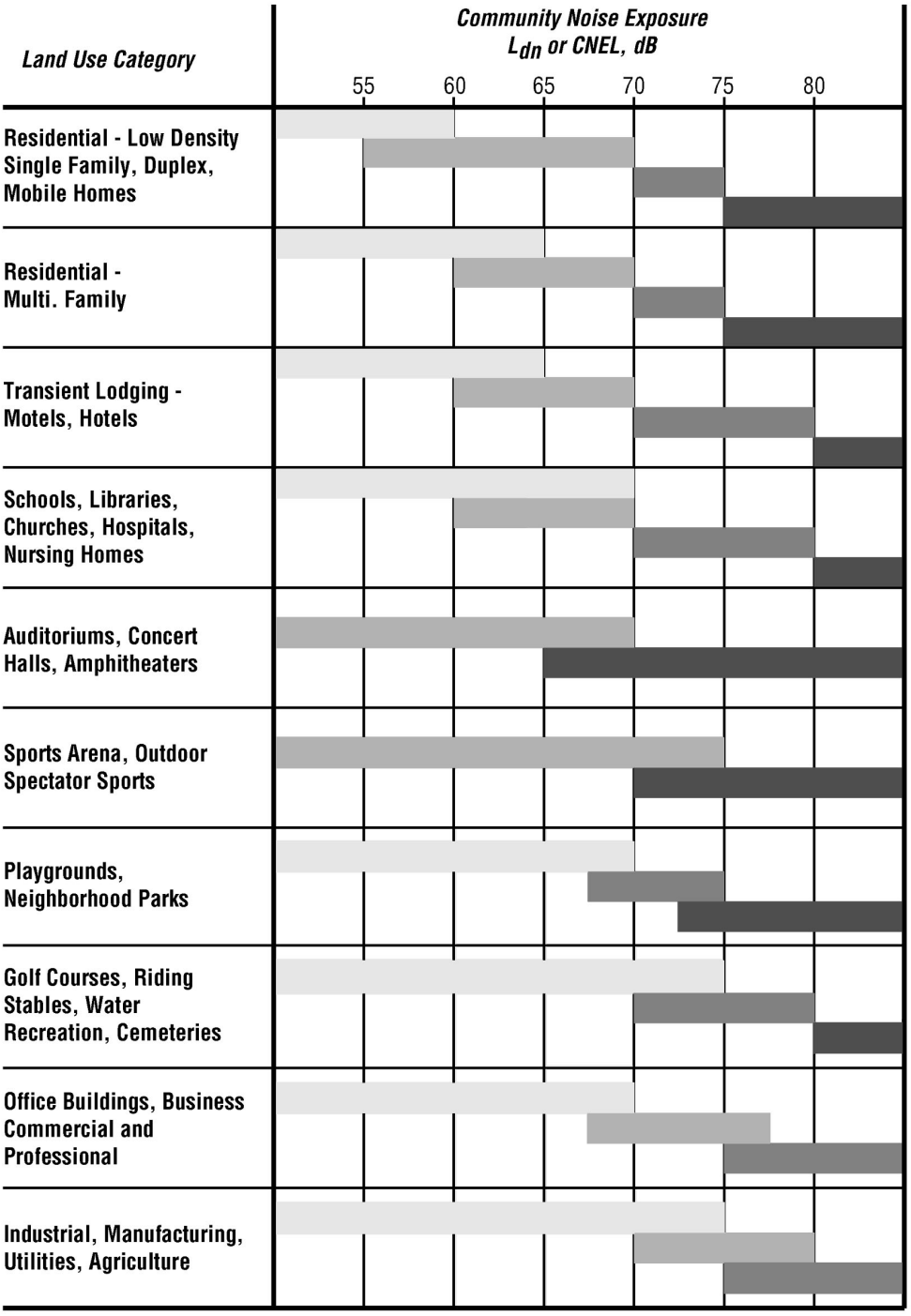
New multi-family housing in California is subject to the environmental noise limits set forth in Title 24, Part 2 of the State Building Code. The interior noise level limit of Title 24 is 45 dBA Ldn, which is consistent with the HUD standard. Where exterior noise levels exceed 60 dBA Ldn, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the proposed project to achieve an exterior noise level less than 60 dBA Ldn in common outdoor use areas and interior noise levels of 45 dBA Ldn in interior living spaces. If the windows must remain closed in order to meet the required noise level, an alternate means of ventilation, such as air-conditioning, must be provided.

The State building code also has requirements for airborne and impact noise isolation between adjacent dwelling units. The airborne and impact sound isolation requirements are typically handled in the architectural design phase versus at a General Plan level of analysis.

ii. Noise Sensitive Land Uses

Different types of land uses are considered to have various sensitivities to noise based on the types of activities that are expected to take place in those uses. The State of California Office of Noise Control (ONC) has developed a noise/land use compatibility matrix, as shown in Figure 4.10-1, which shows noise standards for various land use categories. These noise standards are intended to provide guidelines for the development of municipal noise elements. These basic guidelines may be tailored to reflect the existing noise and land use characteristics of a particular community.

Land uses deemed noise sensitive by the ONC include schools, hospitals, rest homes, long-term care and mental care facilities. Many jurisdictions also consider residential uses particularly noise sensitive because families and individuals expect to use time in the home for rest and relaxation, and noise can interfere with these activities. Some variability in standards for noise sensitivity may apply to different densities of residential development, and single-family



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.

Source: State of California, General Plan Guidelines 2003, page 250.

FIGURE 4.10-1

LAND USE AND NOISE COMPATIBILITY

uses are frequently considered the most sensitive. Jurisdictions may identify other uses as noise sensitive such as churches, libraries, day care centers and parks.

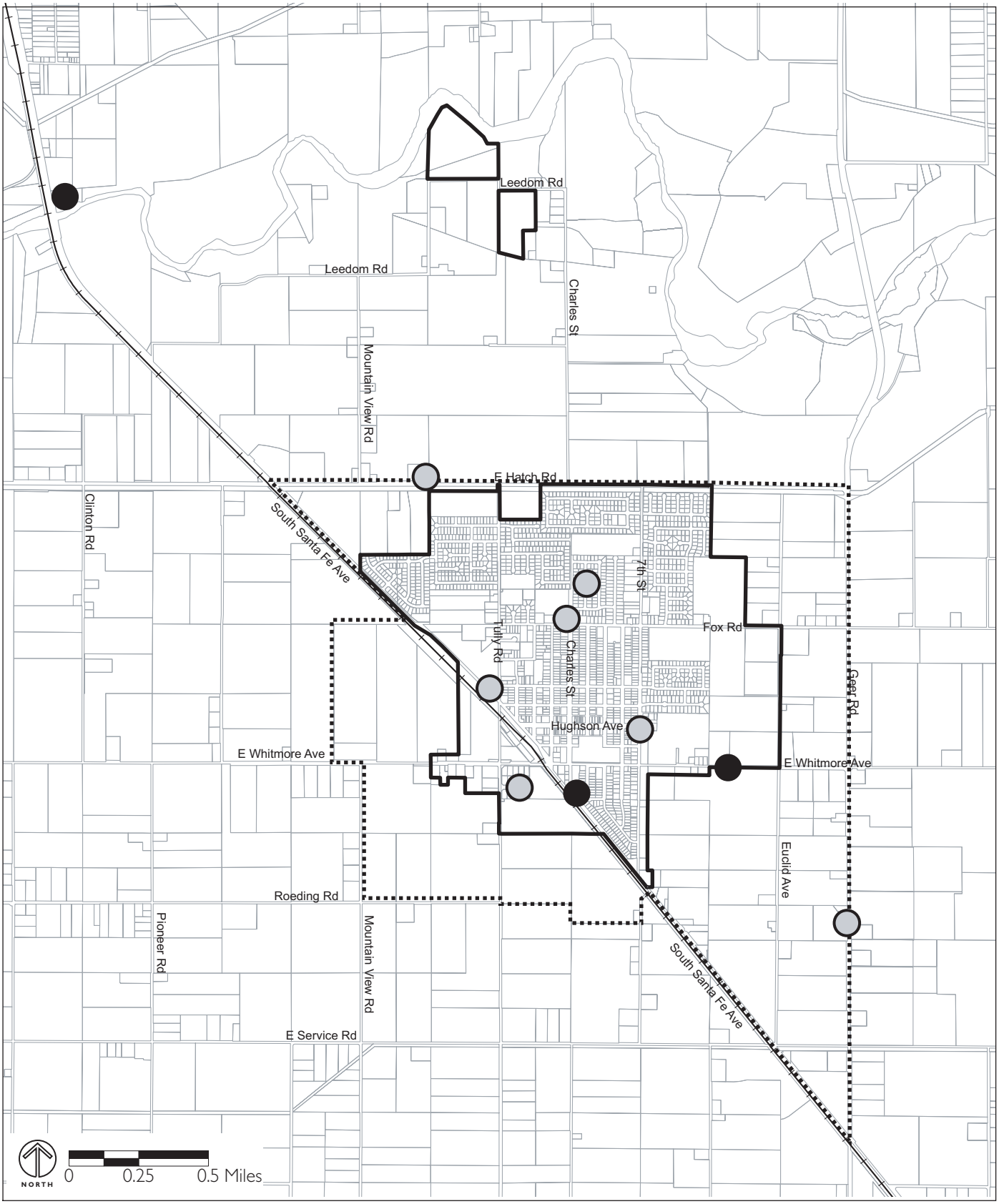
Land uses that are less sensitive to noise include some office and retail developments. There is a range of insensitive noise receptors that generate significant noise levels or where human occupancy is typically low. Examples of insensitive uses include industrial and manufacturing, utilities, agriculture, vacant land, parking lots, salvage yards and transit terminals.

c. City of Hughson Noise Ordinance

The Hughson Noise Ordinance, contained in Chapter 9.30 of the Municipal Code, provides detailed regulation of the noise environment in Hughson. The Noise Ordinance defines noise as "excessive undesirable sound" generated by people, animals, vehicles or equipment. The Ordinance states that it is unlawful to make "unnecessary or unusual noise which unreasonably disturbs the peace and quiet of any zone classified R-A, R-1, R-2, R-3, C-1, C-2 or C-3 which causes discomfort or annoyance" to an average person within those zones, and which is audible without amplification 50 feet or more from the source of the noise. The City enforces the Noise Ordinance from 10:00 p.m. to 7:00 a.m. Monday through Friday, and from 10:00 p.m. to 8:00 a.m. on Saturday, Sunday and holidays.

3. Hughson's Noise Environment

A noise study was completed by Illingworth & Rodkin as part of the 2005 General Plan update process and used for this EIR analysis. This study used a series of noise measurements conducted over both a long-term and short-term basis to determine major noise sources in the city. These measurements found that transportation noise (i.e., which is vehicular traffic on major roadways and railroad operations along the Burlington Northern/Santa Fe Railroad line, as well as industrial activities) are the largest noise sources in Hughson. Figure 4.10-2 shows the general locations of the various long- and short-term noise measurement sites.



Data Source: Stanislaus County GIS, Illingworth & Rodkin, Inc.

FIGURE 4.10-2

City Limits

Sphere Of Influence

Long-Term Measurement Location

Short-Term Measurement Location

NOISE MEASUREMENT LOCATIONS

CITY OF HUGHSON
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Roadway traffic generates noise throughout the city, and railroad trains intermittently generate noise levels that are significant along the train track. Individual industrial, commercial or residential parcels also generate noise, although these noise sources are generally localized and do not affect the overall noise environment of the community. Hughson is not located within an airport plan area or within two miles of any private airfields. Therefore aircraft noise is not considered a major noise source in the city.

a. Long-Term Noise Measurements

Daily noise levels were monitored at four locations within or near Hughson on July 20 to 22, 2004 and August 31 to September 2, 2004. The measured data is summarized in Table 4.10-3. The daily trends in noise levels measured at the four long-term locations are summarized in Appendix B. The long-term measurements are discussed in the following sections for each location.

i. Location LT-1 - Burlington Northern/Santa Fe Railroad, Santa Fe Avenue, North of Hughson

Two noise measurements were made at location LT-1, just north of Hughson at the Leedom Road/Santa Fe Avenue intersection. The measurement site, located approximately 150 feet east of the railroad tracks and 50 feet east of the near lane of Santa Fe Avenue, was used to characterize the noise environment along Santa Fe Avenue and the Burlington Northern/Santa Fe Railroad without interference from outside noise sources. Vehicular traffic along Santa Fe Avenue is a major contributing noise source at this location, with intermittent, very loud noise events produced by train passbys. The measured day-night average noise level during the first measurement period, on July 21 to 22, 2004, was 78 dBA Ldn. Hourly average noise levels ranged from about 70 to 74 dBA L_{eq} during the daytime and dropped to about 62 dBA L_{eq} at night.

TABLE 4.10-3 **SUMMARY OF LONG-TERM NOISE MEASUREMENTS**

Site	Location	Date	Time	Daytime Noise Levels (dBA)	Nighttime Noise Levels (dBA)	Ldn (dBA)
LT-1a	~50 feet from centerline of Santa Fe Ave., near Leedom Road	7/21/04 to 7/22/04	3:30 pm to 4:00 pm	68-75	62-76	78
LT-1b	~50 feet from centerline of Santa Fe Avenue at Leedom Road	8/31/04 to 9/2/04	2:00 pm to 2:00 pm	69-75	60-74	76
LT-2	3831 Hatch Road, ~65 feet from centerline of Hatch Road	7/21/04 to 7/22/04	3:30 pm to 4:00 pm	68-71	62-71	74
LT-3	~150 feet from AT&SF Railroad in Hughson	8/31/04 to 9/2/04	1:00 pm to 2:00 pm	69-80	59-80	82
LT-4	~45 feet from centerline of Whitmore, west of Euclid Avenue	8/31/04 to 9/2/04	1:00 pm to 2:00 pm	60-63	47-60	64

The second measurement period took place from August 31 to September 2, 2004 and included exceedence data[1] that was correlated with exceedence data from long-term location 3 (LT-3) to estimate the number of train movements that took place during the measurement period. Review of exceedence data shows that 65 trains passed during the two-day period. Approximately 54 percent of these operations took place during daytime hours (7:00 am to 7:00 pm), 11 percent during evening hours (7:00 pm to 10:00 pm) and 35 percent during nighttime hours (10:00 pm to 7:00 am). Train movements ranged from a few seconds to more than two minutes in duration. The L_{dn} at this

[1] Exceedance data is collected by selecting a sound level at which the noise expert expects the noise source in question, in this case train operation, to exceed, but which other noise sources such as trucks, are not expected to exceed. The meter records the times and duration of each exceedence (i.e., time the noise level exceeds the selected level). This data is then downloaded and analyzed in reference to the overall levels to determine which exceedences represent the noise source in question versus which represent oddities in the noise environment, such as a bird landing on the branch next to the meter or a motorcycle passing.

location was measured to be approximately 76 dBA, which included both train and Santa Fe Avenue traffic noise. Typical hourly average noise levels during the daytime ranged from 60 to 73 dBA L_{eq}, with noise levels ranging from about 68 to 75 dBA L_{eq} in the nighttime.

ii. Location LT-2 - Hatch Road, West of Hughson

Location LT-2 was 65 feet from the centerline of Hatch Road, north of Faith Home Road, and was selected to characterize existing noise levels generated by traffic along Hatch Road. The measured day-night average noise level was 74 dBA Ldn. Hourly average noise levels ranged from about 66 to 71 dBA L_{eq} during the daytime and dropped to about 62 dBA L_{eq} at night.

iii. Location LT-3 - Burlington Northern/Santa Fe Railroad, Santa Fe Avenue

Noise levels were monitored at this location to determine the noise levels and train frequency for the Burlington Northern/Santa Fe Railroad line. The measurement location was about 150 feet east of the railroad tracks in Hughson and about 25 feet east of the near lane of Santa Fe Avenue. Vehicular traffic along Santa Fe Avenue is a major contributing noise source at this location, with intermittent very loud noise events produced by train passbys. Additionally, the Builders Choice Truss Company in Hughson is located near this location and industrial noise is audible when traffic along Santa Fe Avenue is light and there are no train movements.

Typical hourly average noise levels during the daytime ranged from 68 to 78 dBA L_{eq},with noise levels ranging from about 59 to 80 dBA L_{eq} in the nighttime. Train movements are the same as those described under LT-1; that is, 65 trains passed over a two-day period with durations ranging from a few seconds to more than two minutes. These movements took place approximately 54 percent in the daytime, 11 percent in the evening, and 35 percent at nighttime (10:00 pm to 7:00 am). The L_{dn} at this location was measured to be approximately 80 to 82 dBA, which includes both railroad and Santa Fe Avenue traffic noise.

iv. Location LT-4 - East Whitmore Avenue

Location LT-4 was about 45 feet from the centerline of East Whitmore Avenue, west of Euclid Avenue, and was selected to characterize existing noise levels generated by traffic along East Whitmore Avenue. The measured day-night average noise level was 63 to 64 dBA Ldn. Hourly average noise levels typically ranged from about 60 to 63 dBA L_{eq} during the daytime and dropped to a low of about 47 dBA L_{eq} at night.

b. Short-Term Measurements

Short-term measurements were made at seven spot locations throughout Hughson on September 2, 2004 to characterize typical daytime noise levels, and to collect traffic and noise data to be used subsequently in the computation of traffic noise contours for the 2005 General Plan. The measured data is summarized in Table 4.10-4. Additionally, traffic noise was calculated on nine major Hughson Streets, based on the Caltrans L_{eq}V2 Traffic Noise Model. These results are provided in Table 4.10-5. As with the long-term measurements, vehicular traffic on the street network was the dominant noise source for the majority of the measurements.

c. Existing Noise Contours

Roadway and railroad traffic generate noise throughout Hughson. Specific sources are discussed below, and associated noise contours determined by the short-term measurements are shown in Figure 4.10-2.

i. Roadway Traffic Noise Contours

The three roadways that carry the highest traffic volumes in Hughson, therefore generating the most noise, are Hatch Road along the northern edge of the city, Geer Road to the east of the city limits, and Santa Fe Avenue along the railroad tracks. In addition to these major roadways, segments of 7th Street, Whitmore Avenue and Tully Road also carry relatively high volumes of traffic. However, during the study period, major construction activities were taking place along Tully Road, making it impossible to obtain meaningful noise measurements for this segment.

TABLE 4.10-4 **SUMMARY OF SHORT-TERM NOISE MEASUREMENTS, TAKEN 9-2-04**

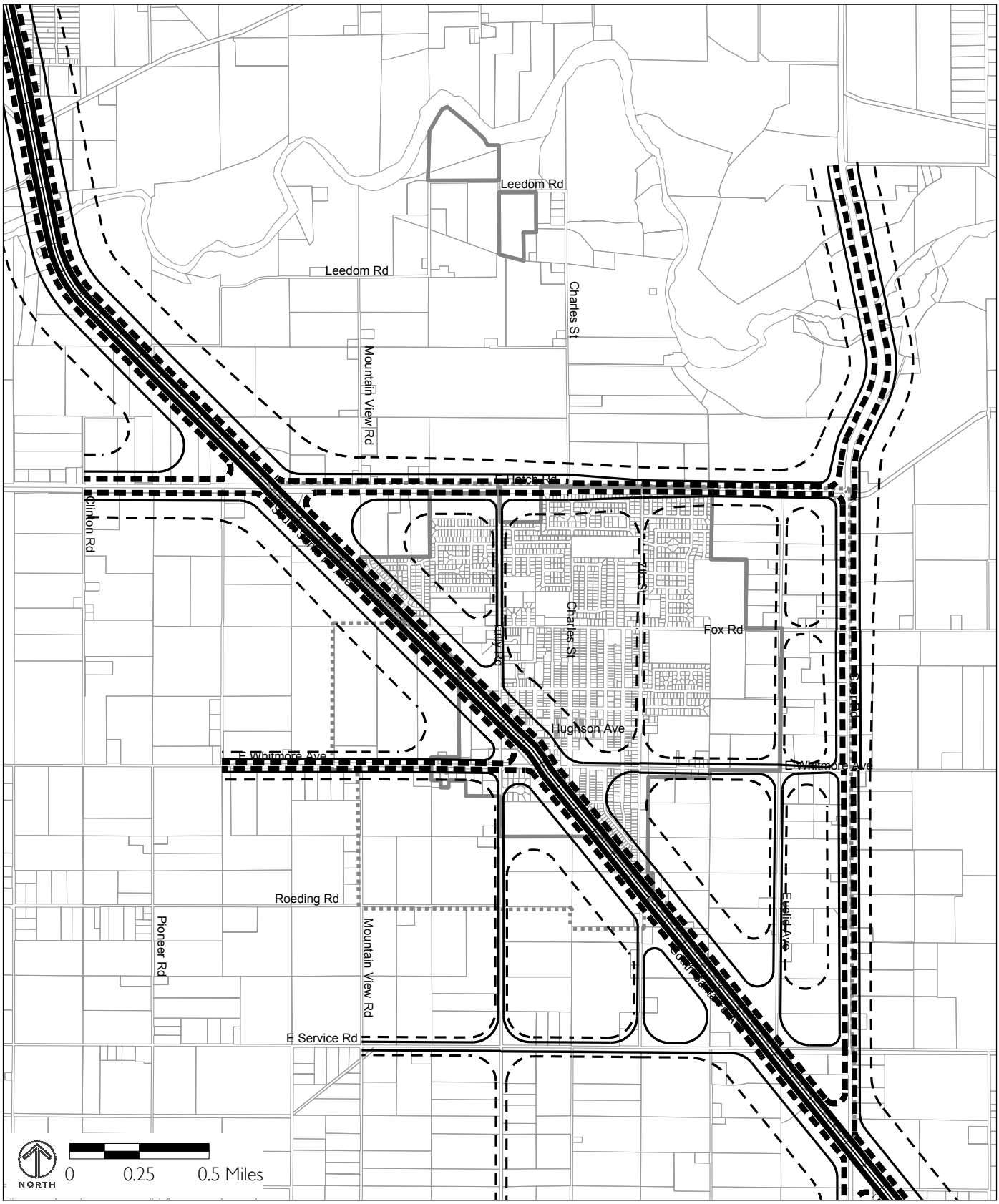
Site	Location	Time	L_{eq} (dBA)	L_1 (dBA)	L_{10} (dBA)	L_{50} (dBA)	L_{90} (dBA)	Primary Noise Source
ST-1	~75 feet from centerline of Geer Road, north of East Service Road	11:08 am to 11:18 am	67	76	71	63	55	Traffic on Geer Road
ST-2	Builders Choice Truss Company, ~195 feet from mill	11:31 am to 11:41 am	55	59	58	54	52	Industrial Noise
ST-3	~60 feet from centerline of Santa Fe Avenue, north of Tully Road	11:50 am to 12:00 pm	67	75	71	63	53	Traffic on Santa Fe Avenue
ST-4	~60 feet from centerline of Hatch Rd., on Mountain View	12:30 pm to 12:40 pm	69	79	73	61	47	Traffic on Hatch Rd.
ST-5a	~60 feet from centerline of Fox Road, at Charles Street	1:00 pm to 1:10 pm	60	72	63	55	47	Traffic on Fox Road, distant train
ST-5b	~60 feet from centerline of Fox Road, at Charles Street	1:10 pm to 1:20 pm	56	65	60	50	46	Traffic on Fox Road
ST-6	Hughson Neighborhood noise, 1829 Sugar Maple Drive	1:30 pm to 1:40 pm	48	56	52	46	43	Distant Traffic
ST-7	~25 feet from centerline of 7th Street, south of Locust	2:00 pm to 2:10 pm	60	70	64	52	46	Traffic on 7th Street

TABLE 4.10-5 **EXISTING VEHICULAR TRAFFIC NOISE ON MAJOR ROADWAYS**

			Year 2004						
Roadway	**Location From**	**To**	**Lanes**	**Daily Traffic Volume**	**Speed** (mph)	**Existing Ldn, dBA** (50 ft from centerline)	**70-Ldn Contour** (feet)	**65-Ldn Contour** (feet)	**60-Ldn Contour** (feet)
Hatch Road		Santa Fe Ave	2	10,525	55	74	90	200	430
	Santa Fe Ave	Tully Road	2	8,168	55	73	80	170	370
	Tully Road	7th Street	2	7,001	55	72	70	150	320
Fox Road	Euclid Ave	Geer Road	2	1,388	45	60	*	*	50
Whitmore Ave		Tully Road	2	6,117	45	67	*	70	150
	Tully Road	Santa Fe Ave	2	4,235	45	66	*	60	130
	7th Street	Euclid Ave	2	2,742	45	64	*	*	90
Service Road		Tully Road	2	1,938	45	62	*	*	70
Santa Fe Ave	Hatch Road	Alamos Road	2	7,764	35	66	*	60	130
	Whitmore Ave	7th Street	2	6,693	35	66	*	60	130
Tully Road	Hatch Road	Narcisco Way	2	2,251	25	60	*	*	50
	Narcisco Way	Fox Road	2	2,545	25	60	*	*	50
	Santa Fe Ave	Whitmore Ave	2	7,605	25	63	*	*	80
7th Street	Santa Fe Ave	Service Road	2	6,825	35	65	*	50	110
Geer Road	Hatch Road	Fox Road	2	8,359	55	72	70	150	320

* Distances of less than 50 feet are not included in this table.

Note: Existing noise levels along plan area roadways were modeled using Caltrans LeqV2 Traffic Noise Model. The traffic noise model was adjusted using noise measurements and corresponding traffic volume counts conducted during the noise monitoring survey. Existing average daily traffic volumes and speeds were collected as part of the General Plan traffic study were used to estimate Ldn values at some locations. Noise levels assume traffic along the roadway is the primary noise source and do not take shielding by terrain or structures into account.



Data Source: Illingworth & Rodkin, 2005.

- 60 dB
- 65 dB
- 70 dB
- 75 dB
- Sphere of Influence
- City Limits

FIGURE 4.10-3

FUTURE NOISE CONTOURS

CITY OF HUGHSON
GENERAL PLAN EIR

ii. Railroad Noise Contours

As previously noted, railroad trains intermittently generate significant noise levels and ground-borne vibration along the railroad tracks. High-speed operations of Amtrak and other carriers on the Burlington Northern/Santa Fe railroad in Hughson occur on the main line, which runs through Riverbank, the west side of Hughson, Empire and Denair, and on a branch line that connects the main line at Riverbank with the Sierra Railroad in Oakdale.

According to noise measurements recorded within and just north of Hughson, an average of 33 trains passed each day. Approximately 54 percent of these were during the daytime, 11 percent in the evening and 35 percent at night. Train movement durations ranged from a few seconds to more than two minutes. Based on noise levels measured along the tracks for 2004 operations, the calculated distance from the center of the main line to the 60 dBA Ldn railroad contour is approximately 950 feet. Table 4.10-6 shows the existing noise contour distances from the railroad, for contours up to 75 dBA.

d. Other Noise Sources

In addition to transportation sources, noise is also generated on individual parcels of industrial, commercial or residential land. Even with the best available noise control technology, industrial uses typically generate higher levels of constant noise as compared to most commercial and residential uses. The major industrial facilities within Hughson are located in the city's industrial area, southwest of the railroad along Whitmore Avenue, and include Builders Choice Truss Company and the Dairy Farmers of America plant. The Hughson Cold Storage facility, another larger industrial use, is located to the northeast of the railroad on the western edge of the city.

Industrial noise generated by the Builders Choice Truss Company was the major noise source at one monitoring location (ST-2). At a few of the locations there were small contributions from intermittent local noise, such as distant industrial or residential noise. Additionally, a single general aviation aircraft at Location ST-4 generated a maximum level of 55 dBA in an area

TABLE 4.10-6 **EXISTING NOISE CONTOUR DISTANCES FROM THE RAILROAD**

Distance from Centerline of the Railroad Tracks (in feet)			
75-Ldn	**70-Ldn**	**65-Ldn**	**60-Ldn**
100	200	440	950

with little traffic and low ambient noise. Despite this one instance of aircraft noise, Hughson is not located within a designated airport noise contour area, so aircraft noise is not a major noise source in the community.

e. Construction Noise

Construction activities generate considerable amounts of noise, especially during the demolition phase and the construction of project infrastructure, when heavy equipment is used. Noise impacts resulting from these activities depend on the noise generated by various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise-sensitive receptors.

Typical noise levels generated by project construction would generally peak between 90 to 105 dBA at a distance of 50 feet from the noise source. Hourly average construction-generated noise levels typically range between 81 dBA to 89 dBA, measured at a distance of 50 feet from the center of the site during busy construction periods (e.g., earth moving equipment, impact tools, etc.). Construction-generated noise levels drop off at a rate of about 6 dBA with every doubling of distance between the source and receptor. Shielding with buildings or terrain often results in much lower construction noise levels at distant receptors.

Typically, small residential, commercial or office construction projects do not generate significant noise impacts when standard construction noise control measures are enforced at the project site, and when the duration of the noise

generating construction period is limited to one construction season, typically one year or less. Construction noises associated with projects of this type are disturbances that are necessary for the construction or repair of buildings and structures in urban areas. Reasonable regulation of construction hours, the arrival and operation of heavy equipment, and the delivery of construction materials are necessary to protect the health and safety of persons, promote the general welfare of the community, and maintain the quality of life.

Larger construction projects are typically built out over more than one construction season, and some construction methods, such as pile driving, generate higher noise levels. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of day (early morning, evening or nighttime hours), in areas immediately adjoining noise sensitive land uses, or when construction lasts over an extended period of time. Limiting the hours when construction can occur to daytime hours is often a simple method to reduce noise impacts. In areas immediately adjacent to construction sites, controls (constructing temporary noise barriers and utilizing "quiet" construction equipment) can also reduce the potential for noise impacts.

B. Standards of Significance

Implementation of the 2005 General Plan would result in a significant noise impact if it would:

- Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or other applicable standards.
- Expose people to or generate excessive groundborne vibration or groundborne noise levels.
- Create a substantial temporary, periodic or permanent increase in ambient noise levels in the project vicinity above levels existing without the project. A permanent or periodic increase is defined as substantial and significant if it resulted in an amplification of 5 dBA or greater in areas

that would be considered compatible with the noise generating land use; or of 3 dBA or greater in areas where newly-generated noise would result in excessive noise for existing land uses. For a temporary noise increase, such as might arise from construction activities, a substantial and significant increase is defined as noise that exceeds 60 dBA L_{eq}(hr) as well as exceeding the ambient noise environment by at least 5 dBA.

- Expose people residing or working in the project areas to excessive noise from a public or private airport.

C. *Impact Discussion*

The following discusses potential noise impacts from the implementation of the 2005 General Plan.

1. Conformance with General Plan Land Use Noise Compatibility Guidelines

The 2005 General Plan outlines Noise and Land Use Compatibility Guidelines, which establish a "normally acceptable" exterior noise level of 60 dBA Ldn for new noise sensitive land uses, including single-family development, duplexes and mobile homes (low- and medium-density residential), and 65 dBA Ldn for new land uses, including multi-family residences (high-density residential) and transient lodgings. A "normally acceptable" noise level of 70 dBA Ldn is established for schools, libraries, churches, hospitals, playgrounds and parks, and commercial uses. An interior noise level standard of 45 dBA Ldn is established for all new residential development.

The 2005 General Plan anticipates the development of new residential, commercial and industrial land uses in areas that may exceed these standards. Without noise reduction measures, such as acoustical shielding by sound barriers, terrain or built structures, these uses would exceed the noise levels considered compatible for its land use. However, it is possible to reduce interior noise levels in residential units to meet 45 dBA Ldn with construction technologies.

Such technologies may include forced-air mechanical ventilation systems, or windows and doors with high Sound Transmission Class (STC) ratings.

New residential land uses are proposed along the Burlington Northern/Santa Fe Railway, Hatch Road, Santa Fe Avenue, Tully Road, Euclid Avenue, 7th Street, Fox Road and E. Whitmore Avenue. In addition, new residential and noise sensitive uses are proposed adjacent to existing commercial areas along Santa Fe Avenue. As shown in Figure 4.10-3, these areas may exceed noise levels of 60 dBA Ldn, the "normally acceptable" standard, for low- and medium-density residential uses. Multi-family uses are proposed along Hatch Road, Whitmore Avenue, Santa Fe Avenue and Tully Road. These areas may exceed 65 dBA Ldn at a distance of 50 feet from the centerline of the roadway. Where exterior noise levels exceed 60 dBA Ldn in new residential development, interior levels may exceed 45 dBA Ldn. Policy N-2.4would require new residential development exposed to exterior railroad generated noise levels of 60 dBA Ldn or greater to be designed to limit maximum single incident noise levels not to exceed 50 dBA in bedrooms and 55 dBA in other rooms.

The 2005 General Plan proposes commercial uses along Hatch Road, Whitmore Avenue, Santa Fe Avenue and Geer Road. These areas may exceed the established standard or "normally acceptable" 70 dBA Ldn limit for commercial uses as a result of the 2005 General Plan. The major industrial facilities within Hughson are located in the city's industrial area, southwest of the railroad along Whitmore Avenue, and include Builders Choice Truss Company and the Dairy Farmers of America plant. The Hughson Cold Storage facility, another larger industrial use, is located to the northeast of the railroad on the western edge of the city. Future operations at existing and proposed industrial and commercial facilities are dependent on many variables and information is unavailable to allow meaningful noise projections. Depending on the actual use and the design of site plans, noise conflicts could occur with the development of residential uses adjacent to commercial or industrial uses.

Industrial and service commercial areas would not, for the most part, be located adjacent to noise sensitive areas. However, where noise sensitive uses

are proposed in the vicinity of noise generating uses, noise levels could exceed 60 dBA Ldn without noise reduction measures.

Although land uses proposed in the 2005 General Plan could expose sensitive land uses to noise levels in excess of the standards described in the noise matrix, the proposed General Plan contains goals, policies and actions to reduce potential impacts associated with noise and land use compatibility to a less-than-significant level. Policies N-1.1 and N-1.3 of the 2005 General Plan would identify and characterize noise-impacted areas by requiring that the Noise and Land Use Compatibility Guidelines be used to determine where noise levels in the community are acceptable or unacceptable, and to require noise attenuation methods in noise-impacted areas. Policies N-1.2 and N-1.4 would maintain a separation of noise sensitive and noise generating land uses, where feasible, and require new noise generating development to minimize noise at the source through site design, building design, landscaping, hours of operation and other techniques.

Actions N-1.2 and N-1.3 would require that an acoustical analysis be conducted for new sensitive land uses in areas where existing noise levels exceed acceptable levels or in the vicinity of existing and proposed commercial and industrial areas and that measures be included in the project design to mitigate noise levels to meet acceptable levels. These actions would reduce noise impacts by developing recommendations in noise-impacted areas (as defined by Policies N-1.1 and N-1.3) to mitigate noise and land use conflicts.

These policies and actions in the 2005 General Plan would mitigate all potential impacts to less-than-significant levels.

2. Groundborne Vibration and Noise

The 2005 General Plan would not introduce any new sources of groundborne vibration. However, development is proposed along the Burlington Northern/Santa Fe Railroad line, which could potentially expose these users to vibration levels in excess of federal standards.

Industrial development is not proposed adjacent to noise sensitive uses. However, new residential development is proposed along the existing Burlington Northern/Santa Fe Railroad line. Ground vibration is site dependant. Railroad operations would introduce potential groundborne vibration issues if vibration-sensitive development, such as residences, were proposed very close to any at-grade operations. Vibration levels were not measured as a part of the 2005 General Plan. However, based on measured data and previous experience with railroad tracks of this type, groundborne vibration levels at a distance of about 100 feet from the centerline of the railroad tracks are typically less than the FTA criteria for infrequent events (80 VdB).

Policy N-2.3 requires that habitable buildings are sited at least 100 feet from the centerline of the tracks, whenever feasible. Action N-2.2 would require development of habitable buildings within 100 feet from the centerline of the railroad tracks to provide a study demonstrating that groundborne vibration issues associated with rail operations have been adequately addressed. With the implementation of these 2005 General Plan goals, policies and actions, impacts from groundborne vibrations associated with rail operations would be reduced to a less-than-significant level.

3. Substantial Noise Increases

The implementation of the 2005 General Plan update may result in noise increases from vehicular traffic, commercial and industrial noise, and construction projects, as detailed below.

a. Vehicular traffic

Vehicular traffic and corresponding noise will increase significantly along many major roadways in Hughson as development and population increase within the community. Localized noise increases may also occur as a result of changes to existing roadways. The goals, policies and actions in the 2005 General Plan are adequate to reduce impacts to a less-than-significant level.

Traffic noise levels throughout Hughson were modeled to determine how changes in vehicular traffic volumes would affect traffic noise levels. Table 4.10-7 specifies the noise level increases for major roadway traffic noise

sources adjacent to existing or potential noise sensitive uses. Significant traffic noise increases would occur on Whitmore Avenue, Santa Fe Avenue, Tully Road, 7th Street, Euclid Avenue, Geer Road and Service Road. All of these roadways are adjacent to existing residences within Hughson with the exception of Geer Road, which is proposed adjacent to the agricultural buffer, and Service Road, which is outside of the City's SOI. A few single-family residences and a retirement community are located along Euclid Avenue.

The predicted increases of traffic noise are not projected to meet or exceed the current noise generated by activity along Santa Fe Avenue and from the adjacent railroad. Measurements along Santa Fe Avenue show that the railroad generates a noise level of 80 dBA Ldn, while traffic generates a noise level of 67 dBA Ldn at a distance of 50 feet from the roadway. The result is an overall noise level of 80 dBA Ldn. Railroad operations are projected to remain the same over the 2005 General Plan timeline. Over the same time period, traffic noise along Santa Fe Avenue is predicted to rise to 71 dBA Ldn at a distance of 50 feet from the roadway. Thus, the overall noise level resulting from new growth under the 2005 General Plan would remain at 80 dBA Ldn, and the increase would therefore be considered less than significant.

In addition, Policies N-2.1 and N-2.2 would reduce traffic related impacts on existing noise sensitive uses through street circulation design, including the rerouting of truck traffic and the use of "quiet" pavements when resurfacing roadways. Action N-2.4 would establish a noise abatement protocol for existing sensitive land uses located in areas anticipated to experience significant noise increases with the implementation of the 2005 General Plan, including Whitmore Avenue, Santa Fe Avenue, Tully Road and 7th Street. The measure will require that the cumulative traffic noise impacts be reduced on existing noise sensitive uses through the inclusion of exterior and/or interior sound reduction measures such as noise barriers, forced-air mechanical ventilation, and sound rated window construction. Together, these policies would reduce potential noise impacts to less-than-significant levels.

TABLE 4.10-7 **NOISE LEVEL INCREASES ALONG MAJOR ROADWAYS NEAR NOISE SENSITIVE USES**

Roadway	Segment Boundaries	Existing Ldn (dBA)*	Future Ldn (dBA)*	Noise Level Increase	Significant Increase?
East West Streets					
Hatch Road	Santa Fe Ave to Geer Road	71 to 74	72 to 76	1 to 2	No
Fox Road	Tully Road to Euclid Ave	55 to 56	59	3 to 4	No
Whitmore Ave	Tully Road to Euclid Ave	64 to 67	68 to 71	4 to 5	Yes
Service Road	Tully Road to Geer Road	61 to 62	67 to 68	6	Yes
North South Roads					
Santa Fe Ave.	Hatch Rd to Geer Road	66 to 67	70 to 71	3 to 4	Yes
Tully Road	Hatch Rd to Santa Fe Ave	60 to 61	64 to 66	4 to 5	Yes
7th Street	Hatch Rd to Chantilly Way	57	58	1	No
	Chantilly Way to Santa Fe Avenue	54 to 57	60 to 62	4 to 7	Yes
Euclid Ave.	Hatch Rd to Whitmore Ave	<55	64	9	Yes
Geer Road	Hatch Rd to Santa Fe Ave	71 to 72	74 to 75	3	Yes

Source: Illingworth and Rodkin, 2005
*Noise levels are specified at a distance of 50 feet from the centerline of the roadway.

b. Commercial and Industrial Noise

Localized noise increases may occur as a result of new noise generating industrial or commercial uses that develop under the proposed General Plan. However, future operations at existing and proposed industrial and commercial facilities are dependent on many variables, and information is unavailable to allow meaningful projections of noise. Industrial and service commercial

areas would not, for the most part, be located adjacent to noise sensitive areas. Depending on the actual use and the design of individual site plans, the development of commercial or industrial uses adjacent to existing residential uses could increase noise levels in localized areas.

Policies N-1.2 and N-1.4 of the 2005 General Plan would maintain a separation of noise sensitive and noise generating land uses, where feasible, and require new noise generating development to minimize noise at the source through site design, building design, landscaping, hours of operation and other techniques. Action N-1.2 would require an acoustical analysis for proposed sensitive land uses to be located within the 60 dBA Ldn noise contour, or in the vicinity of existing and proposed commercial and industrial areas, and for commercial and industrial uses proposed in the vicinity of existing or proposed sensitive land uses. These policies would reduce impacts from increases in commercial and industrial noise to a less-than-significant level.

c. Construction Noise

Development allowed under the 2005 General Plan may result in new construction activity, which could temporarily elevate noise levels at adjacent noise sensitive land uses. Policy N-1.5 therefore requires project developers to incorporate mitigation measures to minimize the exposure of neighboring properties to excessive noise levels during all phases of construction activity. These mitigation measures could include the following standard quiet construction methods:

- Equip all internal combustion engine driven equipment with intake and exhaust mufflers, which are in good condition and appropriate for the equipment.
- Locate stationary noise generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
- Utilize “quiet” air compressors and other stationery noise sources where technology exists.

- When necessary, temporary noise control blanket barriers shall shroud pile drivers or be erected in a manner to shield the adjacent land uses. Such noise control blanket barriers can be rented and quickly erected.
- Foundation pile holes shall be pre-drilled to minimize the number of impacts required to seat the pile. The pre-drilling of foundation pile holes is a standard construction noise control technique. Pre-drilling reduces the number of blows required to seat the pile.
- Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

Additionally, Action 1.1 specifies the enforcement of the Hughson Noise Ordinance, which states that unnecessary and unusual noise should be avoided during the hours of 10:00 p.m. to 7:00 a.m. Monday through Friday, and 10:00 p.m. to 8:00 a.m. Saturday, Sunday and holidays. Together, the proposed goals, policies and actions included in the 2005 General Plan are therefore adequate to reduce impacts to a less-than-significant level.

4. Airport Noise Exposure

Hughson is not located within an airport plan or within two miles of any private airfields. Nor does the 2005 General Plan include goals, policies or actions to build or increase any airport facilities or operations. Therefore, while there may be individual incidences of aircraft noise as single planes fly near Hughson, the implementation of the 2005 General Plan would not result in any significant increased exposure or noise generation from public or private airports.

D. Cumulative Impact Discussion

Cumulative noise impacts are considered as part of the project-level noise analysis since the future traffic projections used for the noise analysis were generated by a traffic model that considered growth under the 2005 General Plan in conjunction with the projected regional growth for Stanislaus County. As previously noted, future traffic noise would not result in a significant impact, at either the project or cumulative level.

E. Impacts and Mitigation Measures

Since the implementation of the 2005 General Plan would not result in significant impacts to noise environments, no mitigation measures are required.

4.11 POPULATION AND HOUSING

This section presents information on both existing and projected population, housing and employment within Hughson, and describes the effects of the 2005 General Plan on population, housing and employment.

A. Existing Setting

The following provides a description of the current conditions with regard to population, housing and employment in Hughson. Similar to regional trends, Hughson is experiencing a period of unprecedented change, including rapidly increasing new home construction and rising home prices.

1. Population

In general, development throughout the Central Valley has been increasing rapidly, as people living in more expensive regions of California look for more affordable places to live. As discussed in greater detail in the Project Description, the population in Hughson increased by 22 percent between 1990 and 2000 to 3,980. Between 2000 and 2005 this growth rate was up to almost 10 percent per year, resulting in 5,942 residents as of January 1, 2005.[1]

According to the 2000 US Census, the median age in Hughson in 2000 was 30.6, with almost 40 percent of the population between the ages of 25 and 54. Of the 3,980 residents recorded, 69 percent were white and 39 percent were of Hispanic origin (of any race). Blacks, American Indians and Asians comprised 0.6, 1.4 and 1.2 percent of the population, respectively. As compared to Stanislaus County, Hughson had a slightly larger Hispanic population and smaller black population, although each by only a few percentage points.[2] Table 4.11-1 depicts detailed population and household trends from 1990, 2000 and 2005.

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[1] U.S. Census, 1990 and 2000. California Department of Finance estimate, January 1, 2005.

[2] Stanislaus River Valley Web site, accessed on May 24, 2005. http://www.stanalliance.org/communities/hughson/demographics.shtml

TABLE 4.11-1 **POPULATION AND HOUSEHOLD TRENDS IN HUGHSON**

	1990	2000	2005	% Change 1990-2005
Population	3,259	3,980	5,942	82%
Housing Units	1,088 (5% vacant)	1,252 (2.3% vacant)	1,836 (2.4% vacant)	69%
Average Household Size	3.16	3.25	3.31	5%
	1990	**2000**	**2003/2004**	**% Change 1990-2003/2004**
Households	1,030	1,223	1,513[2]	47%
Median Household Income	$27,102	$40,385	$48,034[2]	77%
Median Housing Value	$89,000[1]	$117,900	$240,000[3]	163%
Tenure (Owner-occupied)	64.6%	66.9%	--	

Source: U.S. Census, 1990 and 2000; California Department of Finance estimate, January, 2005; Central Valley Association of Realtors; and 2004 Housing Element.

[1] Per the 2004 Housing Element. The 1990 Census records a median housing value of $91,100.

[2] As of 2003.

[3] For the month of March 2004.

2. Housing

Currently, Hughson is mainly comprised of two types of housing stock: the older residential neighborhoods that surround the downtown area and the newer subdivisions of larger homes further out. As detailed in Table 3-1 in the Project Description, there were an estimated 1,836 residential housing units in the City at the beginning of 2005. Of this amount, 1,481 or 81 percent of the dwelling units were detached single-family homes and 65 were attached single-family homes, such as townhouses. Sixty-six residences were

in buildings with two to four units, and 135 residential units were in structures with five or more.[3]

Along with the increase of new housing construction, the cost of housing has also increased, with a spike beginning in 2000. As discussed in the 2004 Housing Element, median housing prices increased from $89,000 in 1990 to $117,900 in 2000, to $168,750 in 2002. By 2004, the average price had increased to $240,000.[4] Between 1990 and 2000, housing prices rose an average of approximately $3,000 per year, but by 2002 values were increasing by up to about $25,000 per year. This trend has continued and between 2002 and 2004, average housing prices rose by upwards of $35,000 per year. Although average wages have also gone up over time, they have not been able to keep pace with the rising cost of living in Hughson. Therefore, the ability of local residents to afford housing is a growing concern. In 2000, almost 40 percent of rental households in Hughson were spending in excess of 30 percent of their income on housing, which is the commonly accepted measure of affordability.[5]

3. Employment

As introduced in the Project Description, the current lack of higher-paying jobs located in Hughson is a concern for local residents as they seek to stay in the City despite the rising housing prices. Table 4.11-2 shows the various categories of employment for Hughson residents and the break-down according to population in 1990 and 2000. The largest percentage of residents continue to be employed in the service industry. This category also saw the most significant growth between 1990 and 2000, with a 72 percent increase based on 218 additional jobs for Hughson residents. The number of residents holding occupations in the Agricultural sector dropped the most significantly, by

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[3] California Department of Finance, City/County Population and Housing Estimates, 1/1/2005, page 17.

[4] Stanislaus River Valley Web site, accessed on May 24, 2005. http://www.stanalliance.org/communities/hughson/demographics.shtml

[5] 2004 Hughson Housing Element, page 54.

25 percent or 54 real jobs. Although Table 4.11-2 depicts the occupational distribution of Hughson residents, it does not indicate where these jobs are located.

Table 4.11-3 outlines employment numbers by workplace location, and average commuting times for Hughson residents. Currently, over 85 percent of Hughson residents work outside of the city in other parts of Stanislaus County, traveling to major employment centers such as Modesto. In fact, between 1990 and 2000, the total number of Hughson residents working in the City actually decreased, as did the percentage of Hughson residents working in Stanislaus County. According to the 2000 Census, about 13 percent of Hughson residents traveled beyond the County for employment, into neighboring areas such as Tracy and Stockton, and some even as far away as the Bay Area. In 2000, over half of Hughson's residents spent over 30 minutes traveling to their place of work, with the number of people traveling over 30 minutes increasing by almost 85 percent between 1990 and 2000. This high percentage of people needing to travel distances to work contributes to adverse environmental and economic problems, such as high levels of air pollution, traffic congestion and increased infrastructure needs.

4. Jobs/Housing Balance

In 2003, the Inter-Regional Partnership (IRP), which includes the Stanislaus Council of Governments (StanCOG), estimated a jobs/housing balance ratio for Hughson in 2000 of 1.31 and projected that it would remain fairly stable in 2025, at 1.32. This shows that there are fewer jobs in Hughson that are recommended by the California Department of Housing and Community Development (HUD), which has established a target goal of 1.5 jobs per housing unit. Compared to the County as a whole, which had an estimates ratio of 1.28, Hughson was a little better than the County as a whole.[6] However,

[6] Inter-Regional Partnership, *Demographic & Employment Forecasts – 2000-2005 Growth Projections*, June 2003.

TABLE 4.11-2 **OCCUPATIONS OF HUGHSON RESIDENTS**

Occupation	1990		2000		% Change 1990-2000
	# of people	% of total	# of people	% of total	
Agriculture, Forestry, Fisheries & Mining	210	16.1%	156	10.4%	-25%)
Construction	114	8.7%	107	7.3%	-6
Manufacturing	225	17.3%	261	17.5%	+14%
Transportation, Communication and Public Utilities	97	7.4%	117	7.8%	+21%
Wholesale & Retail Trade	251	19.2%	220	14.7%	+13%
Finance, Insurance and Real Estate	63	4.8%	27	1.8%	-57%
Service	304	23.3%	522	34.9%	+72%
Public Administration	41	3.1%	84	5.6%	+105%
Total Employed Residents	**1,304**	**87.3%**	**1,495**	**85.9%**	**+15%**
Total Unemployed	190	12.7%	245	14.1%	+29%

Source: Hughson Housing Element, 2004.

this calculation does not take into account job location and whether local residents are actually working within Hughson, which is important for Hughson due to the number of residents working outside of the community. Among other things, this indicates a mismatch between the occupations of the majority of Hughson residents and the types of jobs available in Hughson.

TABLE 4.11-3 **EMPLOYMENT BY COMMUTING PATTERNS (1990-2000)**

Workplace Location of Hughson Residents	1990		2000	
	# of people	% of total	# of people	% of total
In Hughson	208	16.3%	200	13.8%
Outside of Hughson	1,071	83.7%	1,245	86.2%
In Stanislaus County	1,116	87.3%	1,253	86.7%
Outside of Stanislaus County	163	12.7%	192	13.3%
Average Commute Time of Hughson Residents to Work				
0-14 Minutes	386	30.0%	435	30.1%
15-29 Minutes	675	52.5%	614	42.5%
30-44 Minutes	121	9.5%	182	12.6%
45 + Minutes	72	5.6%	175	12.1%
Worked at Home	31	2.4%	39	2.7%

Source: 1990 and 2000 US Census.

B. Standards of Significance

The proposed project would have a significant impact with regard to population and housing if it would:

- Induce substantial unexpected population growth or growth for which inadequate planning has occurred, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere.

- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.
- Degrade the jobs/housing balance within the project area.

C. Impact Discussion

This section discusses the potential impacts of the proposed adoption of the 2005 General Plan on population and housing in Hughson. Implementation of the Plan could result in an increase of dwelling units and population within Hughson and its SOI. Therefore, the 2005 General Plan is designed to address the issues that face Hughson as pressures to grow and change occur, in part by providing a policy framework to control and direct future growth.

In general, as the residential housing opportunities increase, Hughson is working to also provide new employment opportunities in order to maintain or improve the jobs/housing balance and allow residents to work, shop and live within the community. A range of housing types are also allowed and encouraged by the 2005 General Plan to provide housing to meet the varying income levels of Hughson residents. Overall, growth is limited to areas within and adjacent to the existing city limits in order to limit unnecessary infrastructure expansions, mitigate traffic impacts and protect the surrounding agricultural lands.

1. Population and Housing Growth

As a result of regional growth pressures, Hughson will continue to grow to the future. Growth would occur even without the adoption of the 2005 General Plan, since the existing 1984 General Plan allows for growth within the city limits and existing SOI. However, the 2005 General Plan includes a larger proposed SOI than the existing LAFCO-approved SOI, as discussed in the Project Description, so growth under the 2005 General Plan would be greater than under the 1984 General Plan.

The buildout projections for the 2005 General Plan are based on land use designations, available acres, and the existing building allotment regulations in Hughson. Tables 3-3 and 3-4 in the Project Description project future residential and non-residential net growth within the City of Hughson and the SOI. A range of growth assumptions are presented to illustrate different potential growth scenarios for residential and non-residential uses. Since some portion of land used in new development will need to be allocated for roads, public facilities (such as schools and parks), and to address design features, development at the maximum allowed densities and intensities is very unlikely to occur. These factors were taken into consideration and an adjustment applied to create an "expected" growth scenario, which would result in a net increase of 9,132 persons, 2,753 housing units and 2,761,900 square feet of non-residential development. Also, in certain cases, assumptions were made as to the rate of development and location of infill or redevelopment of already developed areas and necessary adjustments made.

Based on the "expected" total 2025 population of 15,074 persons (5,942 existing plus 9,132 new residents) if all the residential areas in the General Plan were built out, Hughson would experience a population growth rate of approximately 154 percent over the 20-year planning period. This growth rate would be lower than the growth rate experienced during the past five years, but would be higher than the StanCOG projected population increase of about 87 percent for Hughson for the same 20-year period for a total population of 11,431.[7] In reality, actual growth rates will depend on market trends; environmental, site and regulatory limitations; and changes in household size. If population growth rates returned to levels that occurred in the 1990's of 11 percent over 10 years, the total Hughson population in 2025 would be approximately 7,249 persons (5,942 existing plus 1,307 new residents), assuming about 22 percent increase over 20 years.

Non-residential uses are expected to grow at a faster rate than residential uses, with an "expected" increase of about 217 percent by 2025.

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[7] Projections provided by StanCOG in April 2004.

The General Plan would help control the rate of growth through the use of a Primary and Ultimate SOI. The Primary SOI depicts areas closest to the existing city limits that may develop through 2015, while the Ultimate SOI includes the remainder of the SOI area and may develop between 2015 through 2025. Areas included in the Primary SOI were selected because they are close to existing urban services, allow for a range of housing and employment opportunities to help maintain an optimal jobs/housing balance, are generally less restricted by Williamson Act contracts and are accessible by major east-west thoroughfares. Hughson's Ultimate SOI contains the remainder of land within the total SOI. While the City does not anticipate urban development within the agricultural buffer between Euclid Avenue and Geer Road during the 20-year planning period, it is included in its Ultimate SOI to ensure that the City has control over future proposed development so that it occurs in an orderly and controlled manner.

General Plan Policy LU-1.1 specifically states that the City will phase development by focusing growth from 2005 through 2015 into the Primary SOI, to ensure an appropriate rate of growth. Within these guidelines, the City also recognizes that the market will be a force directing growth within the community. Therefore, Policy LU-2.2 directs the City to give priority to high quality, environmentally-sound projects that will add additional employment and revenue-generating uses.

Since the 2005 General Plan includes policies to control future growth that would be allowed under the Plan in a planned manner, the 2005 General Plan would not result in a substantial increase in population in excess of what has been planned.

2. Housing and Population Displacement

The implementation of the 2005 General Plan would not create significant impacts related to the displacement of existing housing or population. The majority of growth proposed in the 2005 General Plan would occur on vacant, underutilized or agricultural land, which has few existing housing units. In addition, as the City does not have eminent domain powers where people

reside (as discussed in Section 4.9: Land Use), replacement of existing housing units with other uses will only occur when the property owner decides to replace a unit; i.e. they will not be forced to lose existing residential units.

As a result, implementation of the 2005 General Plan would not result in a significant impact to the displacement of substantial numbers of existing housing units or people.

3. Jobs/Housing Balance

As shown by recent housing development trends in Hughson, the City is attractive to residential developers. However, the City could benefit from an increase in additional employment opportunities to help improve the jobs/housing balance and provide jobs for local residents. As discussed previous, the "expected" growth rate for non-residential uses is higher (217 percent) than residential uses (154 percent), which would improve the jobs/housing balance. As a result, the 2005 General Plan would not worsen the jobs/housing balance, but in fact could positively affect it.

In addition, in a continual effort to improve the jobs/housing balance, reduce residents commuting times and foster a more appropriate job/skills match within Hughson, the 2005 General Plan includes ways for the City to attract economic development opportunities. This includes the designation of specific areas for commercial and industrial growth in a way that would not conflict with adjacent uses, as depicted in the Land Use Element. Specifically, Action LU-2.1 requires the creation of an industrial recruitment plan. During its development and implementation, the City would target and survey industries to determine inducements required and involve the Redevelopment Agency and local business groups in its efforts.

Therefore, implementation of the 2005 General Plan would not result in a significant adverse impact to the jobs/housing balance within the project area.

D. Cumulative Impact Discussion

As discussed above, the 2005 General Plan includes policies to control and direct growth in a well planned manner and works to improve the jobs/housing balance of the community. As a result there would not be a significant, unavoidable project-level impact. Growth would also occur in other communities throughout the County. Stanislaus County and other incorporated jurisdictions are required by State law to use the General Plan process, as well as other planning processes, such as utility master plans, to plan for and control future growth. As a result, there would not be a cumulative impact associated with unplanned growth. In regards to the jobs/housing imbalance in Stanislaus County, Hughson's 2005 General Plan would contribute to a positive improvement in the jobs/housing balance with the addition of additional employment opportunities. As a result, no significant population and housing cumulative impact would occur.

E. Impacts and Mitigation Measures

Since the implementation of the 2005 General Plan would not result in significant population, housing and employment impacts, no mitigation measures are required.

4.12 PUBLIC SERVICES

This section presents information on existing public services in Hughson, including police and fire protection, schools, libraries, and parks and recreation, and describes the effects of the 2005 General Plan on the provision of these services. The discussion is organized according to the type of community service, with each service analyzed individually.

A. Police Service

The following describes current conditions and potential impacts of the proposed project with regard to police services in Hughson.

1. Existing Setting

The Stanislaus County Sheriff's Department is under a five-year contract to supply the residents and businesses of Hughson with law enforcement and protection services. The Department operates a base station attached to City Hall, which is located at 7018 Pine Street in Hughson and shown in Figure 4.12-1. The contracted level of service includes four patrol vehicles dedicated to Hughson and an agreed staff allocation of 0.85 officers per 1,000 residents.[1] Currently the Department provides:

- One on-duty patrol officer: 24 hours per day, 7 days a week
- One clerical staff: normal business hours, 40 hours per week
- One Chief: normal duty hours, 40 hours per week

Hughson experiences a relatively low level of crime. Police service calls and complaints are usually related to traffic accidents or vehicle-related problems. The current maximum response time to an emergency call is three minutes.[2]

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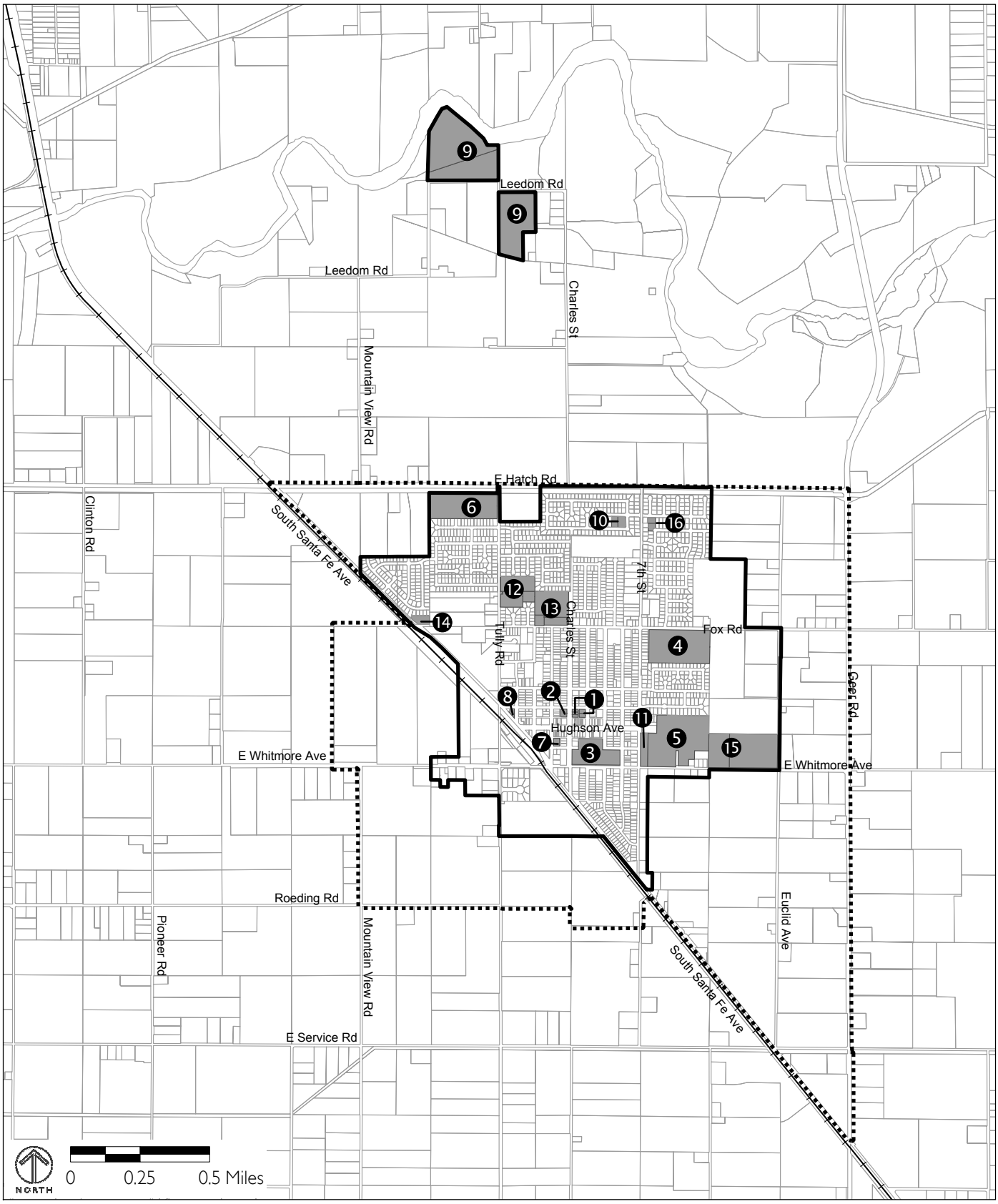
[1] Sanders, Maurice. Assistant Sheriff, Stanislaus County Sheriff's Department. Personal communication with Lisa Fisher, DC&E. January 18, 2005.

[2] Pacific Municipal Consultants (PMC). December 2004. *Draft Plan for Services Katakis Annexation Change of Organization to the City of Hughson*, page 5-6.



Data Source: City of Hughson

1 City Hall and Police Department
2 Fire Department
3 Hughson Elementary School
4 Fox Road Elementary & Emilie J. Ross Middle Schools
5 Hughson High School
6 Hughson Christian School
7 Hughson Public Library
8 Corporation Yard
9 Wastewater Plant and Ponds
10 Rhapsody Mini-Park & Drainage Basin
11 Carrie Shrader Park
12 Starn Park
13 LeBright School Site/Park
14 Santa Fe Drainage Basin
15 Botanical Garden
16 Drainage Basin

City Limits

Sphere Of Influence

FIGURE 4.12-1

PUBLIC/SEMI-PUBLIC USES

CITY OF HUGHSON
GENERAL PLAN EIR

The City coordinates with the Stanislaus County Sheriff's Department to develop and provide crime prevention programs, and to distribute information to the public regarding personal safety precautions and protection of private property. The Department reviews new development proposals for crime prevention design and general safety, and keeps abreast of population increases, which might trigger a need for additional staff or facilities.

The current contract with the Sheriff's Department expires in September 2006 and new contract negotiations will start six to 12 months prior; the City anticipates renewing the contract. Negotiations will address whether increased policing coverage is needed, or if the City is able to provide more cost effective law enforcement. Currently, the contracted staff allocation of 0.85 officers per 1,000 residents provides for an adequate level of service for the community.

2. Standards of Significance

The 2005 General Plan would have a significant impact related to police services if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, need for new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police services.

3. Impact Discussion

Growth allowed under the 2005 General Plan would result in an expected population increase of approximately 9,100 additional residents. Therefore, implementation of the proposed General Plan would result in an increased need for police service. The City would continue to contract with the County to provide law enforcement within the city limits, which would eventually adjust to include lands annexed from the SOI in preparation for development. Based on the current contracted staff allocation of 0.85 officers per 1,000 residents, there would be an eventual demand for eight more officers.

To support the additional officers, supplementary support staff, equipment and increased facility space may also be needed.

The 2005 General Plan includes policies and actions to ensure an adequate level of police service over time in order to maintain a low occurrence of criminal activity in the community (Policy PSF-1.1). As part of ensuring adequate policing levels, the City would review the contracted staffing levels when renegotiating the Sheriff's Department's contract (Action PSF-1.1). To reduce the overall need for policing, the 2005 General Plan also includes Actions PSF-1.2 and 1.3, which require the review of major development projects to ensure they are designed to minimize criminal activity, as well as the maintenance of City crime prevention and community awareness programs.

Because the 2005 General Plan is general in nature and the exact location and timing of future growth is yet to be determined, it is unknown at this time if existing police facilities would be adequate to support future development or if they would need to be expanded or supplemented. However, projections about the future size of the community suggest that maintaining a centralized police station would be adequate to serve the community. Public facilities are permitted under each 2005 General Plan land use designation, so an expanded police station or a substation could be constructed wherever it would be most appropriate.

The specific environmental impact of constructing new police facilities to support the 2005 General Plan cannot be determined at this first-tier level of analysis. However, development and operation of new police facilities may result in potentially significant impacts that are mitigated by various plans and policies identified in other sections of this EIR. As specific police facility expansion projects are identified, additional project-specific, second-tier environmental analysis would be completed pursuant to CEQA.

4. Cumulative Impact Discussion

Future regional growth would result in increased demand for police services throughout the County. However, this cumulative increase in demand for

police services would not require the construction of additional facilities within Hughson, which could result in additional environmental impacts, since Hughson's contract with Stanislaus County Sheriff is designed to meet the needs of Hughson and not the County as a whole. While the Sheriff is allowed to use Hughson facilities for non-Hughson business, the City is not obligated to provide expanded facilities in excess of what is required for Hughson residents and businesses. Therefore, there would not be a significant cumulative impact associated with police services.

5. Impacts and Mitigation Measures

Since no significant impacts related to police services were identified as a result of the 2005 General Plan, no mitigation measures are required. Policies and mitigation measures that are identified in other sections of this EIR would also apply to any unforeseen impacts associated with the construction and operation of police service facilities.

B. Fire Protection

This section describes how fire and emergency medical services are provided in Hughson and its SOI. It also analyzes the potential physical impacts associated with construction of new or expanded fire protection facilities to meet potential increases in demand.

1. Existing Setting

Fire protection and emergency medical services in Hughson and its SOI are handled by a combination of service providers. The Hughson Fire Protection District and Hughson Paramedic Ambulance Company are the primary emergency response service providers, with assistance from surrounding fire protection agencies.

a. Hughson Fire Protection District

The Hughson Fire Protection District (Hughson FPD), established in 1915, is responsible for the primary provision of fire service and emergency medical

response in Hughson and for its residents. The Hughson FPD services over 10,000 people throughout approximately 35 square miles in and around the city.[3] The Hughson FPD's staff consists of a full-time Fire Chief and 29 volunteers. Volunteers are required to complete at least 240 hours of training per year.[4] Administration is handled by a board of three directors, which is elected by voters within the District boundaries.[5]

As of May 2004, the typical maximum response time to emergency calls was three minutes, which affords the District a Class IV level by the Insurance Services Organization.[6] The most frequent service calls are for emergency medical assistance.[7]

The District's only station is located at 2315 Charles Street, in downtown Hughson, as shown on Figure 4.12-1. The Hughson FPD currently maintains the following fire protection and emergency response vehicles:

- Three Type-1 engines
- Two Type-3 engines
- One Type-1 water tender
- One command vehicle
- One rescue boat[8]

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[3] Berner, Scott. Fire Chief, Hughson Fire Protection District. Personal communication with Lisa Fisher and Catherine Reilly, DC&E. February 1 and April 12, 2005. Also, www.hughson-ca.com/hvfd/index.htm, accessed January 5, 2005.

[4] Berner, Scott. Fire Chief, Hughson Fire Protection District. Personal communication with Catherine Reilly, DC&E. April 12, 2005.

[5] Pacific Municipal Consultants (PMC). December 2004. *Draft Plan for Services Katakis Annexation Change of Organization to the City of Hughson*, page 5-6.

[6] Pacific Municipal Consultants (PMC). December 2004. *Draft Plan for Services Katakis Annexation Change of Organization to the City of Hughson*, page 5-6.

[7] Chief Berner, Scott, Hughson Fire Protection District. Personal conversation with Lisa Fisher, DC&E. February 1, 2005.

[8] Pacific Municipal Consultants (PMC). December 2004. *Draft Plan for Services Katakis Annexation Change of Organization to the City of Hughson*, page 5-6.

While the Hughson FPD provides primary fire protection to the community, it also has a mutual aid agreement with most of the other fire protection service providers in Stanislaus County. As a result, if the Hughson FPD is not available to answer a call in the city, another fire department or district will respond to the call.[9]

b. Stanislaus Consolidated Fire Protection District

The Stanislaus Consolidated Fire Protection District (Stanislaus FPD) cooperates with the City to reduce the risk of fires in the area. Prior to project approval, the Stanislaus FPD reviews plans for new development to assess design issues, such as the provision of adequate water supply systems, compliance with minimum street widths, and hydrant locations and distances. The Stanislaus FPD is also responsible for fire prevention programs and fire investigations for most of the County, including the City of Hughson.[10] Hughson FPD assists with these tasks.[11]

c. Mountain Valley Emergency Medical Services Agency

Stanislaus County contracts with the Mountain Valley Emergency Medical Services Agency (Mountain Valley EMS) to provide emergency medical services from the time a 911 medical emergency call is received until a patient arrives at an emergency room. Mountain Valley EMS is responsible for a five-county service area, including Stanislaus, Alpine, Amador, Calaveras and Mariposa Counties.[12]

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[9] Pacific Municipal Consultants (PMC). December 2004. *Draft Plan for Services Katakis Annexation Change of Organization to the City of Hughson*, page 5-6.

[10] Weigard, James. Deputy Chief, Stanislaus Consolidated Fire Protection District. Personal communication with Catherine Reilly, DC&E. April 14, 2005.

[11] Berner, Scott. Fire Chief, Hughson Fire Protection District. Personal communication with Catherine Reilly, DC&E. April 12, 2005.

[12] Smith, Marilyn, Mountain Valley Emergency Medical Services Agency. Personal conversation with Catherine Reilly, DC&E. April 14, 2005.

d. Hughson Paramedic Ambulance Company

Stanislaus County, through the Mountain Valley EMS, contracts with Hughson Paramedic Ambulance Company (HPA) to provide emergency medical service for the entire Hughson FPD service area. However, if there is a paramedic company closer to an emergency call than HPA, the other company will respond. Hughson FPD also responds to all emergency medical calls for immediate response; however, HPA or the responding private ambulance company is ultimately responsible for the treatment and transport of patients to an emergency room.[13]

2. Standards of Significance

The 2005 General Plan would have a significant impact related to fire protection and emergency medical services if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection and emergency medical facilities, need for new or physically altered fire protection and emergency medical facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services.

3. Impact Discussion

Development under the proposed 2005 General Plan would result in an increased demand for fire and emergency medical protection. Additional staff, equipment and facilities would be required to maintain current response times. The actual location of new and expanded facilities will depend on where growth occurs within the city limits and SOI, which is not known at this time. However, fire and emergency response facilities are allowed in all 2005 General Plan land use designations.

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[13] Berner, Scott. Fire Chief, Hughson Fire Protection District. Personal communication with Catherine Reilly, DC&E. April 12, 2005; Crowder, Thomas. Hughson Paramedic Ambulance Company. Personal communication with Catherine Reilly, DC&E. April 18, 2005; and Smith, Marilyn. Mountain Valley Emergency Medical Services Agency. Personal conversation, April 14, 2005.

Recognizing that there could be an increased demand for fire and emergency medical response, the 2005 General Plan includes several policies and actions to support the activities of the Hughson FPD, and other service providers. For example, Policies PSF-2.1 and PSF-2.2, and Action PSF-2.1, address continued cooperation between the City and the Hughson FPD to provide adequate fire protection service to the community and explore methods to improve the level of service provided. The City would also continue to support the existing mutual aid agreements (Policy PSF-2.3).

To reduce the overall need for fire protection, the City would enforce all relevant fire codes and ordinances (Policy PSF-2.4), require all new development to use fire-safe building materials and early warning systems, install sufficient water supply systems (Policy PSF-2.5), and encourage the installation of sprinkler systems (Policy PSF-2.6). The City would also forward new development applications to the Hughson FPD and Stanislaus County FPD for their review (Action PSF-2.2).

The specific environmental impact of constructing new fire and emergency medical facilities to support the 2005 General Plan cannot be determined at this first-tier level of analysis. However, development and operation of these facilities may result in potentially significant impacts that are addressed by various plans, policies and mitigation measures identified in other sections of this EIR. As specific fire and emergency response facility expansion projects are identified, additional project-specific, second-tier environmental analysis would be completed.

4. Cumulative Impact Discussion

Future regional growth would result in increased demand for fire services throughout the County. However, only growth within the Hughson FPD would result in the need for the Hughson FPD to construct additional facilities, resulting in additional environmental impacts. Since Hughson represents the largest concentration of population for the Hughson FPD service area, facilities needed to service the 2005 General Plan would also be adequate to meet the demand generated by any other growth occurring within the Dis-

trict's service area. Therefore, there will not be a significant cumulative impact associated with fire services.

5. Impacts and Mitigation Measures

Since no significant impacts related to fire protection were identified as a result of the 2005 General Plan, no mitigation measures are required. Policies and mitigation measures that are identified in other sections of this EIR would also apply to any unforeseen impacts associated with the construction and operation of fire protection and emergency medical response facilities.

C. Schools

The existing conditions regarding schools in Hughson are addressed in this section, as well as potential physical impacts associated with the provision of expanded school services to meet future demand.

1. Existing Setting

The Hughson Unified School District (HUSD) provides Kindergarten through 12th grade education for students living in Hughson and the surrounding unincorporated areas. The HUSD is supported by over 100 faculty and staff, and served approximately 2,000 students in 2004. In addition, the District has access to the use of supplementary services from the Stanislaus County Department of Education, including adaptive physical education and the School Attendance Review Board. The HUSD completed a Facilities Master Plan in 2004 and revises its demographic information and projections on an annual basis. The capacity and enrollment records for the 2004-2005 academic year are shown in Table 4.12-1.

HUSD operates two elementary schools that were recently divided by grade level. Hughson Elementary School, located on East Whitmore Avenue, opened on its current site in 1950. The school now includes Kindergarten through third grade, as well as a separate State pre-school program, which

TABLE 4.12-1 **HUSD CAPACITY AND ENROLLMENT FOR 2004-2005**

School	Capacity*	Enrollment
Hughson Elementary School (K-3)	633 students	545 students
Fox Road Elementary School (4-5)	384 students	311 students
Ross (Emilie J.) Middle School (6-8)	605 students	474 students
Hughson High School (9-12)	972 students	760 students
Billy Joe Dickens Continuation (10-12)	33 students	33 students

* Various modernizations/expansions are proposed at each facility for 2006-2008 (except Fox Road Elementary), which will increase capacities at each school.

Note: Enrollment figures were provided by HUSD in January 200, but are being updated.

Source: Conversation with Jim Rallis, HUSD Superintendent. January 14, 2005.

runs on a traditional calendar along with the rest of the school. Hughson Elementary also runs an active after- school program called Healthy Start that provides enrichment classes and homework assistance. Fox Road Elementary School, located on Fox Road, opened in for the 2003-2004 school year and educates fourth and fifth graders. Figure 4.12-1 shows the locations of all HUSD schools.

The Emile J. Ross Middle School is adjacent to Fox Road Elementary School and serves sixth through eighth graders. Hughson High School is located on East Whitmore Avenue and serves 10th through 12th grades. The Billy Joe Dickens Continuation program serves 33 additional high school students and is housed on the main campus. The HUSD has plans to relocate the Continuation program, along with the Adult Education and Independent Study programs, to the LeBright School site. The playing fields at the LeBright School site will be preserved.

The District also has future plans to develop a Charter High School, as well as expand and modernize existing school facilities. To allow for the potential expansion of facilities, the District has purchased a 30-acre site to the south of

the High School at Whitmore Avenue and 7th Street. However, the appropriate use for the site has not been determined yet.

In addition to the public school facilities in Hughson, there is one private school, the Hughson Christian School, shown in Figure 4.12-1. Hughson Christian School had a recent enrollment of 55 students in Kindergarten through eighth grade.

For planning purposes, HUSD establishes student generation rates according to grade level. For the 2004 to 2005 school year, it was estimated that every new residential dwelling unit generated an average of 0.7 students. This total is further broken down to 0.4 Kindergarten through fifth grade students, 0.1 sixth through eighth grade students and 0.2 high school students per dwelling unit.

Public school facilities and services are partially supported through the assessment of development fees. The HUSD charges every new residential dwelling unit $3.15 per square foot, and all new commercial development $0.36 per square foot. HUSD is limited by State law as to how much it can collect from new development. Funding of school facilities has been impacted by the passing of SB 50, which limits the impact fees and site dedication that school districts can require of developers to off-set the impact of new development on the school system.

2. Standards of Significance

The 2005 General Plan would have a significant impact related to schools if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for school services.

3. Impact Discussion

Implementation of the 2005 General Plan would increase demand for school facilities. Additional staff and equipment would also be required to maintain or exceed the current school service standards. Based on the HUSD student generation factor of 0.7 students per dwelling unit and the expected increase of about 2,870 additional residential units under the 2005 General Plan, there would be an increase of approximately 2,000 new students, requiring additional school facilities. Other than the one proposed school site at the intersection of 7th Street/Whitmore Avenue, the actual location of new and expanded facilities to serve these additional students is not known at this time. However, school facilities are allowed under all 2005 General Plan land use designations, so can be constructed at a variety of locations. Although, as discussed below, schools would probably be located in residential areas to be in proximity to the student population.

The 2005 General Plan includes policies and actions to work with HUSD to provide for adequate and well-designed public school facilities to meet future demand. As a result of General Plan Policies PSF-3.1 and PSF-3.2, the City would work with HUSD to ensure, to the extent allowed by law, that adequate school facilities are provided concurrently with new development. Hughson would also provide the District with the opportunity to review residential development proposals to assist the City in assessing the potential impacts on schools (Policy PSF-3.5). The location and design of future school sites is also addressed by Policy PSF-3.3 of the 2005 General Plan, which recommends that a school be centrally located to the student population it would serve. To maximize benefits, Policy PSF-3.4 encourages school sites to be integrated with parks to provide additional recreational opportunities for the community.

The specific environmental impact of constructing new schools and related facilities to support the 2005 General Plan cannot be determined at this first-tier level of analysis. However, development and operation of school facilities, both public and private, may result in potentially significant impacts that are mitigated by various plans and policies identified in other sections of this

EIR. As specific school expansion or improvement projects are identified, additional project-specific, second-tier environmental analysis would be completed.

4. Cumulative Impact Discussion

Future regional growth would result in increased demand for schools throughout the County. However, only growth within the HUSD service area would result in the need for HUSD to construct additional facilities, resulting in additional environmental impacts. Since Hughson represents the largest concentration of population for the HUSD service area, facilities needed to accommodate the 2005 General Plan would also be adequate to meet the demand generated by any other growth occurring within the HUSD service area. Therefore, there would not be a significant cumulative impact associated with schools.

5. Impacts and Mitigation Measures

Since no significant impacts related to schools were identified as a result of the 2005 General Plan, no mitigation measures are required. Policies and mitigation measures that are identified in other sections of this EIR would also apply to any unforeseen impacts associated with the construction and operation of schools or school facilities.

D. Library Services

This section addresses the provision of existing and future library services within Hughson related to implementation of the 2005 General Plan.

1. Existing Conditions

Hughson is a member of the Stanislaus County Library system. Its local branch, the Hughson Public Library, is one of the four largest in the system and is located at 2412 Third Street, as shown on Figure 4.12-1. Stanislaus County Library cards are free of charge and can be used by Hughson resi-

dents at any of the 13 County branches. Other nearby branches are located in Turlock, Ceres and Empire.

In 1995, voters in Stanislaus County approved a ⅛-cent sales tax increase to support the County Library system. Both in 1999 and again in 2004, residents voted to extend the tax collection. It is scheduled for application through 2013 and will be reconsidered as the expiration date draws near. Currently the sales tax funds 75 percent of the County Library System's budget and has helped the Hughson Public Library increase its level of service. Prior to 1995, the City's library was only open 10 hours per week and offered a much more limited range of services. The City currently works with the Stanislaus County Library system to ensure adequate funding is available to maintain its current level of service, whether through continuation of the sales tax or an appropriate alternative method in the future.

The last major study undertaken by the County Library regarding demand for library service was in the 1990's. Since the Hughson branch is a relatively new facility, there are no current plans to expand the library.[14]

2. Standards of Significance

The 2005 General Plan would have a significant impact related to libraries if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for library services.

3. Impact Discussion

With the increased population that would be allowed under the 2005 General Plan, there would be an increased demand for library services. Since the

[14] Tomlinson, Cindy. Stanislaus County Library. Personal conversation with Catherine Reilly, DC&E. June 23, 2005.

Stanislaus County Library system has not recently completed a comprehensive study estimating demand, it is difficult to discern if additional facilities would be needed to support the 2005 General Plan. It may be that the existing facility would continue to provide adequate service with the addition of new books or expansion of the hours of operation, or it is possible that the existing facility would need to be expanded or a new facility constructed. If additional space is needed, libraries are allowed under all 2005 General Plan land use designations, and can therefore be constructed at a variety of locations. However, the library would probably stay in the Downtown area since it is a centralized location for the community.

Recognizing the need to provide adequate library services to Hughson residents, the 2005 General Plan includes a policy and action to address the provision of library service. Policy PSF-4.1 states that the City would continue to work with the Stanislaus County Library system to ensure that adequate funding is available to continue the level of service currently provided by the Hughson Library. In addition, Action PSF-4.1 states that the City would support the Stanislaus County Library efforts to renew the County-wide sales tax increment that finances the library system.

The specific environmental impact of constructing new library facilities to support the 2005 General Plan cannot be determined at this first-tier level of analysis. However, development and operation of library facilities could result in potentially significant impacts that are addressed by various plans, policies and mitigation measures identified in other sections of this EIR. As specific library expansion or improvement projects are identified, additional project-specific, second-tier environmental analysis would be completed.

4. Cumulative Impact Discussion

Future regional growth would result in increased demand for library facilities throughout the County. As a result, the Stanislaus County Library system would probably need to expand library facilities to meet the increased demand. The countywide sales tax would help to fund these improvements. However, as with the 2005 General Plan project-level analysis, it is unknown

exactly where these library facility expansions would occur to support the cumulative increase in population, though they would occur within urbanized areas where there is a concentration of population. As specific library expansion or improvement projects are identified, additional project-specific, second-tier environmental analysis would be completed. As a result, a significant cumulative impact associated with libraries would not occur.

5. Impacts and Mitigation Measures

Since no impacts related to library services were identified as a result of the 2005 General Plan, no mitigation measures are required. Policies and mitigation measures that are identified in other sections of this EIR would also apply to any unforeseen impacts associated with the construction and operation of the library system and related facilities.

E. Parks and Recreational Facilities

This section focuses on existing parks and recreational facilities in Hughson, as well as an analysis of the potential project-related impacts to the future demand for these facilities.

1. Existing Setting

A discussion of the City's current efforts to plan for parkland, as well as an inventory of existing recreational facilities are provided below.

a. City of Hughson Parks Master Plan

The City is in the process of developing and adopting a Parks Master Plan. To address the growth pressures experienced by Hughson, the Parks Master Plan would work to implement the community's established priorities regarding the provision of parks and open space, and provide direction as to how to meet the future needs for parkland.

As part of the Parks Master Plan process, the City has calculated that it currently has at least 5 acres of parkland for every 1,000 residents. The Parks

Master Plan outlines the type and location of parks and open space allocations the City wishes to secure to meet its parkland goal. For each park category, the Plan provides guidelines for size, service area, location, site characteristics, design elements, lighting, restrooms, recreation facilities, utilities, site furnishings and landscaping. The Plan also identifies a planning and design process to ensure proper site selection and cost-efficient implementation.

The Parks Master Plan also analyses the cost of developing and maintaining the various types of parks, and provides direction for utilizing accrued park and open space funds efficiently, without placing an undue tax burden on residents. The Plan will inform the establishment of appropriate development impact fees in order that the City might pass along land acquisition and construction costs to project proponents. However, the Parks Master Plan also recognizes that no matter how park development is initially funded, the City must consider and plan for future maintenance costs.

b. Existing Recreational Facilities

The City of Hughson currently provides active and passive recreational opportunities to its residents through a variety of mini, neighborhood and community parks. Additional recreational opportunities are also provided through public schools sites, which have historically been used by the community for a range of recreational activities and organized sports leagues. The privately-owned Botanical Gardens, located on Whitmore Avenue, is also planning for expansion and will provide additional recreational opportunities for the community. Finally, several regional parks and reservoirs also provide recreational opportunities for Hughson residents. Stanislaus County's park system includes 16 parks, ranging in size from ½ acre to 96 acres. Nearby reservoirs include the Modesto and Woodward Reservoirs in Waterford and Oakdale, respectively.

i. Parks

As of January 2005, there is one mini-park, one neighborhood park and two community parks in Hughson, totaling approximately 17 acres. In addition, there are two turfed drainage retention basins, several public school recrea-

tion facilities and a botanical garden. The location of each facility is shown in Figure 4.12-1. The complete recreational facilities inventory is detailed in Table 4.12-2, including the types of equipment or amenities located at each facility. The following provides a description of Hughson's tiered park system:

- **Mini-Parks.** Small parks, typically ½ to 5 acres in size, that provide recreational activities generally used by the local neighborhood or subdivision. Although these parks are often privately-owned and maintained by the related Homeowners Association, they are usually available for use by the general public. In Hughson, the Rhapsody neighborhood includes a mini-park with a tot lot.

  Neighborhood Parks. Generally, 3- to 7-acre sites that host basic recreational activities for 1,000 to 3,000 people within a ¼- to ½-mile radius. These parks have street frontage on at least one public street, are convenient to pedestrians, are linked with bicycle routes and trail corridors when possible, and are located adjacent to schools or other municipal facilities. Carrie Shrader Park is currently the only neighborhood park in Hughson, although there are two turfed drainage basins that could be considered in this category. Because Carrie Shrader Park contains the City's main swimming pool, it tends to draw residents from a further radius than typical to a neighborhood park.

- **Community Parks.** Generally, 10- to 25-acre sites that provide a mix of active and passive recreational activities for 10,000 to 50,000 people within up to a 50-mile radius. These larger parks have street frontage on at least two public streets, off-street parking and convenient access for pedestrians and bicycle traffic. They should be located within close proximity to neighborhoods and adjacent to schools, or other municipal facilities if possible, while consciously preventing negative impacts from higher activity levels on surrounding communities. Starn Park and LeBright School are the two community parks in Hughson.

TABLE 4.12-2 **EXISTING RECREATIONAL FACILITIES IN HUGHSON**

Name	Facility Type	Acres	Amenities	Owner
Starn Park	Community Park	8.2	Lighted baseball field with dugouts, jogging trail, play structures, concession/restroom building, picnic area, BBQ grills, paved off-street parking for 50 cars, ADA accessible	City
Carrie Shrader Park	Neighborhood Park	2.0	Swimming pool (open to the public during the summer), restrooms, picnic area, BBQ grills, play equipment, passive play areas, parking	HUSD
LeBright School (former school site)	Community Park	6.32	5 baseball diamonds, bleachers, field for football and soccer practice, snack bar, portable restrooms, gravel off-street parking for 100 cars	HUSD
Hughson High School	Public School	8.52	2 baseball diamonds, 8 tennis courts, football and track venue, stadium seating, basketball courts, restrooms, concession stand, off-street parking	HUSD
Ross Middle School and Fox Road Elementary	Public School	6.05	2 soccer fields, 2 baseball diamonds, 1 volleyball court, benches, grass areas, vending, restrooms, off-street parking	HUSD
Hughson Elementary School	Public School	3.68	Basketball courts, tetherball, play equipment, small baseball diamond, small grass field, off-street parking	HUSD
Santa Fe Drainage Basin	Open Space	1.15	Open space grassed area that serves as drainage for heavy rains but is designed to also provide park space and dry within 1 day	City
Rhapsody Drainage Basin and Tot Lot	Open Space/ Playground	1.28	Open space as described above, with an additional playground geared towards younger children	Private
Hughson Botanical Garden	Arboretum	13.0	Undeveloped open space with established tree collection	Private

ii. Dual-Use Drainage Basins

There are two dual-use neighborhood drainage basins that are turfed to provide passive recreational opportunities for Hughson residents. Although other drainage basins exist in Hughson at this time, these two are the only ones that have been designed with recreational access in mind.

iii. Hughson Botanical Garden

In 1994, a longtime Hughson resident began to develop a small ornamental tree collection. In 2000, after visualizing the community benefit that could be provided, this citizen deeded 13 acres of land to establish the Hughson Arboretum & Gardens non-profit organization and appointed a Board of Directors.

An interpretive planning process for the Hughson Botanical Garden, geared to be a regional horticultural and educational institution, began in earnest in 2003. The Garden's mission was solidified during these activities: to "...foster stewardship and promote an appreciation of native landscapes, the creation of sustainable urban landscapes and the preservation of heritage landscapes," simply put, to incorporate education and awareness with public recreation. As part of the planning process, a master plan for the botanical garden has been prepared and the non-profit organization is working to implement the vision of the master plan. While this facility will probably be made available to the public, it will most likely have limited access.

2. Standards of Significance

The 2005 General Plan would have a significant impact to recreational resources if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated.
- Result in substantial adverse physical impacts associated with the provision of new or physically altered parks or recreational facilities, need for new or physically altered parks or recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable performance objectives for parks or recreational facilities.

3. Impact Discussion

New development under the proposed 2005 General Plan has the potential to increase the demand for parks and recreational facilities. The City has included a policy in the 2005 General Plan to provide 5 acres of parkland for every additional 1,000 residents (Policy COS-2.1). Based on the expected 2025 population of about 9,500 persons, there would be a need to provide an additional 48 acres of parkland to maintain this policy. Without additional park acreage, there could be an increase in the use of existing neighborhood and regional parks or other recreational facilities, which could deteriorate the existing facilities.

Therefore, the 2005 General Plan includes additional policies and actions to ensure that the City's parkland goal is met and existing facilities are not negatively impacted by future growth. The City will continue to support the development of the Hughson Botanical Garden (Policy COS-2.4), and requires new development to provide adequate parkland at a ratio of 5 acres per 1,000 residents (Policy COS-2.1). Action COS-2.1 requires the City to continue to implement the Parks Master Plan and update it on a regular basis.

There are also policies and actions to encourage joint or dual-use facilities, including school facilities (Action COS-2.2) and drainage basins (Policy COS-2.3), which would increase the recreational opportunities within Hughson. Finally, the 2005 General Plan addresses the design and maintenance of parks to provide for a diversity of recreational facilities scattered throughout the community (Policy COS-2.2) that are designed in a way that minimizes water, energy and chemical use (Policy COS-2.6).

The 2005 General Plan does not specifically identify where future parks would be constructed; however, parks are an allowed use under all land use designations and would most likely be located in residential areas where they would be close to the primary users of parks.

The specific environmental impact of constructing new park or recreation facilities to support the 2005 General Plan cannot be determined at this first-

tier level of analysis; however, development and operation of park facilities may result in potentially significant impacts that are addressed by various plans, policies and mitigation measures identified in other sections of this EIR. As specific park and recreation facility expansion projects are identified, additional project-specific, second-tier environmental analysis would be completed.

4. Cumulative Impact Discussion

Future regional growth would result in increased demand for park and recreational facilities throughout the County. As a result, the County and other jurisdictions would need to expand and construct additional parks and other recreational facilities to meet the increased demand. State law allows jurisdictions to require additional development to fund park improvements, which would ensure the provision of adequate parklands. However, as with the 2005 General Plan project-level analysis, it is unknown exactly where these parks and recreational facilities would occur to support the cumulative increase in population. As specific parkland expansion or improvement projects are identified, additional project-specific, second-tier environmental analysis would be completed. As a result, a significant cumulative impact associated with parks and recreational facilities would not occur.

5. Impacts and Mitigation Measures

Since no significant impacts related to parks and recreational facilities were identified as a result of the 2005 General Plan, no mitigation measures are required. Policies and mitigation measures that are identified in other sections of this EIR would also apply to any unforeseen impacts associated with the construction and operation of park or recreational facilities.

4.13 TRANSPORTATION

This section summarizes the existing transportation and circulation conditions in Hughson and provides an evaluation of the effects the 2005 General Plan would have on these conditions.

The traffic analysis contained in this section was prepared by kdANDERSON Transportation Engineers.

A. Existing Setting

The transportation system in and around the City of Hughson is comprised of roadways, parking systems, limited bicycle and pedestrian facilities, public transit and regional facilities. Each is discussed in greater detail in the following sections.

1. Existing Roadway System

The network of roadways in and around Hughson consists of arterials, collectors and local streets. The closest major highway, Highway 99 (SR-99), is approximately 4.5 miles west of Hughson, where it passes through the community of Ceres, connecting through Modesto and Stockton to points north, and through Merced and Fresno to points south.

The following provides an overview of the existing roadway system, along with an analysis of how well it is able to carry current traffic loads. In addition, major intersections are identified with an analysis of their capability to operate at acceptable levels with existing traffic conditions.

a. Existing Roadway Network

Many of Hughson's streets have existed since the earliest days of the City's development. The roadway system is comprised of arterials, collectors and local streets; all of which are two-lane with one lane in each direction.

- **Arterials.** Hughson's arterial streets are the primary movers of traffic, providing the main routes within and through the city, and also carrying traffic to and from the regional highways and other communities. Santa

Fe Avenue is an arterial that runs northwest-southeast through Hughson, parallel to the railroad. Santa Fe Avenue's alignment cuts across the orthogonal grid that characterizes Hughson's roadway system complicating circulation patterns since all roadway intersections with Santa Fe Avenue have a skewed configuration. Intersection improvements along Santa Fe Avenue are also limited due to the presence of the adjoining railroad and canals.

Other existing arterials follow a grid pattern. Geer Road runs north-south along Hughson's eastern SOI boundary, ultimately connecting Hughson to Turlock to the south and Oakdale to the north. Hatch Road, Whitmore Avenue and Service Road are east-west arterials that connect Hughson to Ceres and SR-99.

- **Collectors.** The backbone of the City's roadway system consists of its collector streets, which connect arterial street to local streets. The collector street system is also oriented around a grid. Existing collector streets include Tully Road, Charles Street, 7th Street and Euclid Avenue, which run north-south, and Fox Road and Hughson Avenue that run east-west.
- **Local Streets.** The remainder of Hughson's roadways are considered local streets, which serve to connect vehicles from individual neighborhoods to the collector system. In some of the City's southern portions, older streets were developed based on previous County standards and have substandard and potentially dangerous intersections with adjoining arterials. Local streets in newer residential subdivisions are generally oriented around cul-de-sacs and non-direct through streets that lack the connectivity of Hughson's older neighborhoods.

b. Study Intersections

As part of the 2005 General Plan and EIR analysis, a number of important intersections which currently carry heavier amounts of traffic, mostly associated with the City's major arterials and collector streets, were counted to determine existing conditions. These include the following intersection:

- Santa Fe Avenue/Hatch Road
- Santa Fe Avenue/Tully Road

- Santa Fe Avenue/Whitmore Avenue
- Santa Fe Avenue/7th Street
- Santa Fe Avenue/Geer Road
- Hatch Road/7th Street
- 7th Street/Whitmore Avenue
- Geer Road/Hatch Road
- Geer Road/Whitmore Avenue

An additional six intersections were included in the analysis of future conditions, but actual existing counts were not completed for the intersections. Instead, the existing LOS was determined by observation and interpolation of counts on adjoining streets. These intersections include:

- Mountain View Road/Hatch Road
- Santa Fe Avenue/Mountain View Road
- Whitmore Avenue/Tully Road
- Whitmore Avenue/Euclid Avenue
- Santa Fe Avenue/Euclid Avenue
- Santa Fe Avenue/Service Road

2. Level of Service Criteria

Existing and future traffic conditions are evaluated based on operational conditions along individual roadway segments, and at a series of study intersections in the project study area. The analysis relies on the concept of "Level of Service" (LOS), a qualitative measure of traffic conditions on individual roadway segments and intersections, whereby a series of letter grades, "A" through "F," corresponds to progressively worsening traffic service along a roadway or intersection.

Roadway LOS is based upon a comparison of the traffic volume along the roadway with the capacity of that roadway, whereas analysis of intersection LOS is based on the delay associated with vehicles making specific movements at an intersection. The applicable criteria for each of these methodologies are described below.

a. Roadway Level of Service Standards

The proposed 2005 General Plan would establish LOS D as the threshold below which roadways are considered to be operating unacceptably; however, the 2005 General Plan would also recognize that LOS D may not always be feasible in areas that are constrained by existing development.

Table 4.13-1 shows the daily traffic volumes on roadway segments that correspond with LOS C, D and E. The analysis in this EIR applies Hughson's LOS D volume threshold to all roadway segments analyzed, including those outside the city limits.

b. Intersection Level of Service Standards

Like other roadway facilities, intersections are evaluated using a LOS system. For this EIR and for preparation of the 2005 General Plan, this evaluation is based on methodologies provided in the 2000 Highway Capacity Manual. At signalized intersections, the LOS rating is based on the weighted average control delay measured in seconds per vehicle. The relationship between the control delay and LOS for signalized intersections is summarized in Table 4.13-2.

To evaluate unsignalized intersections, the operations method of the 2000 Highway Capacity Manual was utilized. When the intersection is controlled with one, or two-way stop signs this methodology determines the LOS based on delay for the worst approach. When the intersection is controlled with all-way stop signs, the delay is an average for all approaches. LOS criteria for unsignalized intersections are summarized in Table 4.13-3.

As with roadway segments, this EIR uses LOS D as the acceptable operating threshold for both signalized and unsignalized intersections.

TABLE 4.13-1 GENERAL LEVEL OF SERVICE THRESHOLDS BASED ON DAILY TRAFFIC VOLUMES

Street Classification	Lanes	Control	Daily Traffic Volume at LOS		
			C	D	E
Collector	2	undivided	7,700	11,600	12,900
Arterial	2	undivided	9,200	13,700	15,450
	4	divided	20,100	30,200	33,200

Source: kdANDERSON, based on the *Stanislaus County Congestion Management Plan.*

3. Existing Traffic Operations

The following describes the existing service levels for major roadways and intersections.

a. Existing Roadway Segment Operations

Existing traffic operations were analyzed based on traffic counts made at locations on major roads in Hughson. This sample of current traffic volumes was intended to look at those roads which already carry major traffic volumes and which are expected to carry high traffic volumes in the future. The majority of traffic counts were conducted in December 2004, but some data was taken from other recent traffic studies prepared before that date.

Table 4.13-4 summarizes daily traffic volumes and resulting levels of service along major roadways in Hughson. As shown in the table, most of the study roadway segments operate at LOS C, indicating acceptable conditions. Among the various count locations, the highest volume was observed on Hatch Road and Santa Fe Avenue. The observed volumes on these roads are indicative of LOS D conditions on a two-lane road, which are lower, although also acceptable. The lower levels of service are attributable to congestion that occurs at the Santa Fe Avenue/Hatch Road intersections.

TABLE 4.13-2 **SIGNALIZED INTERSECTION LEVEL OF SERVICE CRITERIA**

LOS	Description	Average Control Delay (Seconds)
A	Free flow/non-congested operation. Turning movements are easily made and all queues clear in a single signal cycle.	≤ 10.0
B	Stable operation/minimal delays. An occasional approach phase is fully utilized. Drivers begin to feel somewhat restricted within platoons of vehicles.	> 10.0 to 20.0
C	Stable operation/acceptable delays. Major approach phases fully utilized. Backups may develop behind turning vehicles.	> 20.0 to 35.0
D	Approaching unstable operation/tolerable delays. Drivers may have to wait through more than one red signal indication. Queues may develop but dissipate rapidly, without excessive delays.	> 35.0 to 55.0
E	Unstable operation/significant delays. Volumes at or near capacity. Vehicles may wait through several signal cycles. Long queues form upstream of intersection.	> 55.0 to 80.0
F	Forced flow/excessive delays. Represents jammed conditions. Traffic demand exceeds the capacity. Queues may block upstream intersection.	> 80.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2000

TABLE 4.13-3 UNSIGNALIZED INTERSECTION LEVEL OF SERVICE CRITERIA

LOS	Description	Average Control Delay (Seconds)
A	Free flow/non-congested operation.	≤ 10.0
B	Stable operation/minimal delays.	> 10.0 to 15.0
C	Stable operation/acceptable delays.	> 15.0 to 25.0
D	Approaching unstable operation/tolerable delays.	> 25.0 to 35.0
E	Unstable operation/significant delays.	> 35.0 to 50.0
F	Forced flow/excessive delays.	> 50.0

Source: Highway Capacity Manual, Transportation Research Board, 2000.

b. Existing Intersection Operations

A.M. (7:00 to 9:00 a.m.) and P.M. (4:00 to 6:00 p.m.) peak hour LOS were determined for the major intersections in Hughson, based on the traffic counts described in the previous section.

As shown in the Table 4.13-5, the majority of the unsignalized intersections in the city operate at LOS B or better during both AM (7:00 to 9:00) and PM (4:00 to 6:00) peak hours, which is acceptable. The Geer Road and Santa Fe Avenue intersection operates at LOS D during the PM Peak, but this is also acceptable. The only intersection that operate unacceptably under existing conditions is the intersection of Santa Fe Avenue and Hatch Road which currently operates at LOS F during the morning peak hours and LOS E during the evening peak hours. This intersection currently requires signalization to improve its operation.

TABLE 4.13-4 **EXISTING ROADWAY TRAFFIC VOLUMES AND LEVEL OF SERVICE (LOS)**

Road Name	From	To	Type	Existing Lanes	Daily Traffic Volume	LOS
East-West Roads						
Hatch Road		Santa Fe Ave	Arterial	2	10,525	D
	Santa Fe Ave	Tully Road	Arterial	2	8,168	C
	Tully Road	7th Street	Arterial	2	7,001	C
	7th Street	Geer Road	Arterial	2	5,725 (11/03)	C
Alamos Drive		Santa Fe Ave	Local	2	1,164	C
Fox Road	Tully Road	7th Street	Collector	2	2,443	C
	7th Street	Euclid Ave	Collector	2	2,000 (e)	-
	Euclid Road	Geer Rd	Collector	2	1,388	C
Locust Street	Tully Road	7th Street	Collector	2	630	C
Pine Street	Tully Road	7th Street	Local	2	411	C
Hughson Ave	Santa Fe Ave	7th Street	Collector	2	2,150	C
Whitmore Ave		Tully Road	Arterial	2	6,117	C
	Tully Road	Santa Fe Ave	Arterial	2	4,235	C
	Santa Fe Ave	7th Street	Arterial	2	3,000 (e)	-
	7th Street	Euclid Ave	Arterial	2	2,742	C
	Euclid Ave	Geer Road	Arterial	2	2,000 (e)	-
Service Road		Tully Road	Arterial	2	1,938	C
	Tully Road	Santa Fe Ave	Arterial	2	2,000 (e)	C
	Santa Fe Ave	Geer Road	Arterial	2	1,500 (e)	C
North-South Roads						
Santa Fe Avenue		Hatch Road	Arterial	2	9,225 (9/04)	D
	Hatch Road	Alamos Drive	Arterial	2	7,764	C
	Alamos Drive	Tully Road	Arterial	2	7,500 (e)	C
	Tully Road	Whitmore Ave	Arterial	2	8,000 (e)	C
	Whitmore Ave	7th Street	Arterial	2	6,693	C
	7th Street	Service Road	Arterial	2	6,700 (e)	C
	Service Road	Geer Road	Arterial	2	6,704 (4/02)	C
	Geer Road		Arterial	2	6,700 (e)	C
Tully Road	Hatch Road	Narcisco Way	Collector	2	2,251	C
	Narcisco Way	Fox Road	Collector	2	2,545	C
	Fox Road	Santa Fe Ave	Collector	2	3,000 (e)	C
	Santa Fe Ave	Whitmore Ave	Arterial	2	7,605	C
	Whitmore Ave	Service Road	Collector	2	1,728	C
	Service Road		Collector	2	1,500 (e)	C

TABLE 4.13-4 CONT'D. **EXISTING ROADWAY TRAFFIC VOLUMES AND LEVEL OF SERVICE**

Road Name	From	To	Type	Existing Lanes	Daily Traffic Volume	LOS
Charles Street	Whitmore Road	Fox Road	Local/ Collector	2	1,326	C
5th Street	Whitmore Road	Elm Street	Local	2	543	C
7th Street	Hatch Road	Chantilly Way	Collector	2	2,754	C
	Chantilly Way	Fox Road	Collector	2	2,095	C
	Fox Road	Whitmore Ave	Collector	2	2,762	C
	Whitmore Ave	Santa Fe Ave	Collector	2	1,242	C
	Santa Fe Ave	Service Road	Collector	2	6,825	C
Euclid Avenue	Hatch Road	Fox Road	Collector	2	77	C
	Fox Road	Whitmore Ave	Collector	2	100 (e)	C
	Whitmore Ave	Service Road	Collector	2	-	-
Geer Road		Hatch Road	Arterial	2	11,805 (4/03)	-
	Hatch Road	Fox Road	Arterial	2	8,359	C
	Fox Road	Whitmore Ave	Arterial	2	8,000 (e)	C
	Whitmore Ave	Service Road	Arterial	2	6,949 (4/03)	C
	Service Road	Santa Fe Ave	Arterial	2	7,000 (e)	C
	Santa Fe Ave		Arterial	2	10,630 (4/03)	D

(date) Date of traffic count used. Where not marked, the traffic counts were collected in 12/04.

(e) Existing traffic counts were estimated based on observation and interpolation of counts on adjoining streets.

TABLE 4.13-5 **EXISTING INTERSECTION LEVEL OF SERVICE (LOS)**

			AM Peak		PM Peak	
	Intersection	**Control Type**	**Avg. Delay** (seconds)	**LOS**	**Avg. Delay** (seconds)	**LOS**
1	Santa Fe Ave/ Hatch Road	All-Way Stop	59.3	F	46.0	E
2	Santa Fe Ave/ Tully Road	All-Way Stop	11.9	B	11.0	B
3	Santa Fe Ave/ Whitmore Ave	All-Way Stop	11.1	B	13.1	B
4	Santa Fe Ave/ 7th Street	Northbound/ Southbound Stop	2.3	A	2.2	A
5	Santa Fe Ave/ Geer Road	All-Way Stop	15.5	C	30.9	D
6	Hatch Road/ Tully Road	Northbound Stop	2.7	A	2.5	A
7	7th Street/ Whitmore Ave	All-Way stop	11.1	B	9.3	B
8	Geer Road/ Hatch Road	All-Way Stop	13.1	B	13.2	B
9	Geer Road/ Whitmore Ave	All-Way Stop	12.3	B	13.9	B

c. Seasonal Traffic Variations

The volume of traffic on the major roads around Hughson can fluctuate throughout the year, primarily as a result of agricultural activity. According to data obtained from the Stanislaus County Department of Public Works, volumes observed during the late summer months (July, August and September) are typically much higher than volumes in the winter. To provide a rough indication of the variation, County staff has compared traffic volumes recorded throughout the year on major roads and developed rough "equivalency" factors. These equivalency factors suggest that the volume observed in July could be as much as 68 percent higher than in December.

The analysis in this EIR is based on more typical year-round conditions, rather than on the seasonal traffic volumes during the peak harvest season from August to September.. As stated in 2005 General Plan Policy C-1.2, the LOS standard of D is intended to be applied to "typical," non-peak harvest conditions. Also, since the types of development anticipated in Hughson would themselves have little variation in trip generation throughout the year and the available trip generation rates for new growth also do not account for any seasonal variation, modeling used in this EIR analysis is all "annualized," rather than reflecting seasonal variation.

4. Parking Requirements

Generally, the availability of adequate parking is not an issue in Hughson. All new residential development is required to meet City parking standards. However, there are no park and ride facilities within Hughson or the immediate vicinity to facilitate ride sharing.

In the Downtown, individual businesses have historically used the shared parking spaces along Hughson Avenue, versus providing specific on-site parking spaces. Shared parking opportunities allow the City to maintain the pedestrian-focus of the Downtown by minimizing the number of individual parking lots visible along the commercial corridor.

5. Bicycle System

Bicycle facilities are classified according to a typology established by Caltrans as documented in its Highway Design Manual. The Caltrans standards provide for three distinct types of bikeway facilities, as described below:

- **Class 1 Bikeway (Bike Path).** Provides a completely separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized.
- **Class II Bikeway (Bike Lane).** Provides a restricted right-of-way and is designated for the use of bicycles with a striped land on a street or highway. Vehicle parking and vehicle/pedestrian cross-flow are permitted.

- **Class III (Bike Route).** Provides for a right-of-way designated by signs or pavement markings for shared use with pedestrians or motor vehicles.

Although the City does not have a comprehensive bicycle plan, there is currently a Class II bikeway along Hughson Avenue and Sixth Avenue, and one planned for Charles Street. In general, separate bicycle lanes have not been pursued in Hughson because local bicycle travel is considered safe due to the relatively low volumes of automobile and truck traffic on the neighborhood streets and the Downtown. Nevertheless, there is a need in the City for additional bicycle facilities and planning.

6. Pedestrian System

Hughson's existing pedestrian system is comprised of sidewalks along roadways; however, while sidewalks exist throughout much of Hughson, there are gaps in the system. In addition, there are not currently any dedicated pedestrian paths meant specifically for recreation, such as along the Hatch Street Canal.

Many of the major destination points in Hughson are accessible by pedestrians. Most routes around schools and the Downtown maintain sidewalks in good condition. Some pedestrian connections exist to the various community parks, and are required in the Park Master Plan as a component of future development. New subdivisions are also required to incorporate and provide sidewalks as part of the neighborhood's site design.

There is a lack of safe pedestrian connections between the existing residential areas to the southwest side of the railroad and the rest of the community to the northeast. As a result, the City is concerned with safety issues associated with pedestrians crossing the railroad at Whitmore Road, especially because children living on the southwest side of the railroad tracks have to cross to walk to schools and workers in the industrial area need to cross to access services in the Downtown. The City is studying improvements within the Downtown to improve the area's walkability and attractiveness to pedestrians in order to encourage residents to shop and visit local businesses.

7. Public Transit

Public transit in the Hughson area is provided by Stanislaus County Transit's Waterford-to-Modesto Runabouts. In Hughson, the runabouts stop at the Community Resource Center on Third Street just north of Whitmore Avenue, Monday through Saturday between 7:30 a.m. and 6:00 p.m. There are three round trips per day between Modesto and Waterford with stops in Hughson and Empire. The trip from Hughson to Modesto typically takes 45 minutes. Once in Modesto, riders can connect with the Modesto Area Transit system.

Runabouts are available to the general public and combine designated fixed stops/routes with curb-to-curb service. For fixed stop/route service, passengers can board a runabout at the Community Resource Center without having to pre-book a ride, but will also be required to disembark at another designated fixed stop. Passengers living within the Hughson city limits can also request curb-to-curb service from a specific location. Residents can call up to a week in advance to request a curbside pick-up before or after one of the scheduled pick-ups at the Resource Center. Based on number of pickups, the curb-to-curb service from Hughson to Modesto can take between one to two hours.

8. Freight Movement

Freight, mainly consisting of retail and agricultural goods, travels to and from Hughson ultimately by truck, but often connects during transport with the regional rail corridor.

a. Truck Routes

Hughson does not have a designated truck route system or any controls on truck deliveries in the commercial areas of the city. Currently, truck traffic travels along the major roadways surrounding Hughson, including Hatch Road, Geer Road, Santa Fe Avenue, Whitmore Avenue and Service Road.

Major truck traffic is associated with traveling to and from the industrial area to the southwest of the railroad, as well as other industrial operations scattered along Santa Fe Avenue and Geer Road. Agricultural production also

generate high amounts of truck traffic, especially during the summer months when there is a peak in agricultural activities. Slower moving trucks, or trucks entering and exiting industrial and agricultural facilities along major roadways, can result in congestion and traffic hazards for smaller vehicles.

To a lesser extent, truck traffic associated with delivery of goods to the Downtown is another issue facing Hughson. Since goods are currently delivered to the front of businesses, trucks often park along Hughson Avenue and create traffic hazards if not appropriately located. As a result, modifying Hughson Avenue to make it more pedestrian friendly is to some extent limited by the need to ensure that it is maintained at its current width to allow for truck access.

b. Rail System

The Burlington Northern/Santa Fe Railroad and Amtrak run in a northwest to southwest diagonal along the rail tracks on Hughson's west side, along Santa Fe Avenue. However, there are no rail stations or other stops within Hughson, so the major benefit of the railroad is that it allows for the transport of manufactured and produced goods in and out of the larger region. Currently, there are railroad crossings in the city at Hatch Road, Tully Road, Whitmore Avenue and 7th Avenue.

Although the rail system does not maintain any stops in Hughson, its presence still impacts the community. Physically, the raised railway tracks act as a separation between residential uses to the northeast and industrial and higher-density residential uses to the southwest. Since all railroad crossings are currently at grade, the railroad contributes to safety concerns and traffic delays, especially where pedestrians are concerned. The City is reviewing existing circulation conflicts along Santa Fe Avenue, including automobile and pedestrian safety hazards at the Whitmore/Santa Fe Avenue intersection.

Passenger rail service is not available from Hughson directly. Presently, the closest depot is located in Denair at the Amtrak Station, five miles south of Hughson. There are ongoing discussions at the State High Speed Rail Au-

thority of creating a regional rail network to link Sacramento to the Bay Area and Sacramento to Southern California. Stanislaus County would fall on the route linking Sacramento to Los Angeles, with a stop in Modesto estimated to be about a 15-minute drive from Hughson. However, there is not any funding secured for the project at this time.

9. Airports

The closest airport to Hughson is the Modesto City-County Airport, located approximately six miles west of Hughson. Limited regional airline service is provided from this airport. General aviation facilities are also located about 15 miles south in Turlock, and about 15 miles north in Oakdale, although neither airport services scheduled flights.

B. Standards of Significance

The proposed 2005 General Plan would have a significant impact to traffic or transportation if it would:

- Exceed the City's proposed LOS D threshold on local roads.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Result in inadequate parking capacity.
- Conflict with adopted policies, plans or programs supporting alternative transportation.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

C. *Impact Discussion*

The following provides an analysis of the potential impacts the 2005 General Plan may have on the local and regional roadway and transportation systems.

1. Future Traffic Operation

This section analyzes the impacts of the proposed 2005 General Plan on roadway and intersection operations in and around the City of Hughson.

Future traffic volumes with buildout of the proposed General Plan's land uses were projected by kdANDERSON Transportation Engineers by adding the trips generated by new uses projected under the General Plan to existing traffic, and assigning these total trips onto the study area street systems. The directional distribution of new trips was assigned based on StanCOG's regional travel demand forecasting model. A "select link" analysis was performed using this model to identify the routes used by external trips leaving the City. This model suggests that external trips leaving the community will be primarily headed to the west (39 percent), south (36 percent), and north (19 percent)with a lesser share to the east (6 percent). The model was also used to identify total cumulative traffic volumes occurring on the regional circulation system in the year 2030.

As noted previously, the modeling used for the following analysis was all "annualized." Although it is recognized that conditions may be worse during the peak harvest season (i.e, August to September), than in the rest of the year, the 2005 General Plan LOS standard of D is intended to be applied to "typical," non-peak harvest conditions, as stated in 2005 General Plan Policy C-1.2, so this is the basis used for analysis in this EIR.

a. Buildout Traffic Generation

The proposed General Plan Land Use Element permits development of new residential and non-residential land uses throughout the community. This would include the development of 2,726 new residential dwelling units, and approximately 2.27 million square feet of new commercial and industrial de-

velopment over the life of the General Plan. Since the new Public Facility designation, and the proposed change to allowed land use within the Agriculture designation that would permit agriculture-related industrial uses are not expected to generate many trips, they were not included in this analysis. Table 4.13-6 summarizes projected new development, and the associated number of vehicle trips that would be expected to be generated under the proposed General Plan.

As shown, anticipated development is expected to generate a total of just over 60,250 new daily vehicle trips, of which just over 40,000 are associated with new non-residential development. It is anticipated that many of these trips will remain within Hughson, occurring between residential and non-residential uses. On a daily basis, about 34,100 trips would be expected to leave the community, representing slightly more than half of the total trips generated.

The large proportion of trips associated with non-residential uses are projected to account for the majority of external trips, about 28,000 daily trips, as opposed to external trips generated by residential uses (6,100 daily trips). This is due to the large increase of commercial uses along Santa Fe Avenue designated in the 2005 General Plan. A greater amount of commercial land than could be supported solely by the local population was designate in the 2005 General Plan by the City as a strategy to attract retail uses to the community, by providing a selection of development opportunities. For the purposes of this EIR, a worst-case scenario is assumed in which all of those areas fully develop with new commercial uses. However, it is possible that that not all of the land designated as General Commercial along Santa Fe Avenue would actually develop with such uses, particularly since Ceres and other larger cities in the region provide more attractive locations for commercial development. If some of the General Commercial areas do not eventually develop as commercial uses, they most likely would be developed for residential uses, which would result in less external trips. However, for this to occur, a General Plan Amendment would need to occur and additional traffic analysis would need to be completed.

TABLE 4.13-6 **GENERAL PLAN LAND USE TRIP GENERATION SUMMARY**

		Trip Generation		
Land Use	**Amount**	**Daily**	**AM Peak**	**PM Peak**
Residential				
LDR	1,360 DU*	13,015	1,020	1,374
MDR	462 DU	1,650	347	467
HDR	1,034 DU	6,825	527	631
Existing Residences Replaced	-130 DU	-1,245	-98	-131
Residential Subtotal	***2,756***	***20,245***	***1,800***	***2,341***
Non Residential				
Downtown Commercial	96.4 ksf**	3,104	74	271
Neighborhood Commercial	52.27 ksf	1,683	40	147
General Commercial	771.01 ksf	24,827	594	2,166
Service Commercial	222.16 ksf	2,537	387	333
Industrial	1,132.19 ksf	7,891	1,042	1,110
Non-Residential Subtotal	*2,274.03 ksf*	*40,042*	*2,137*	*4,027*
Total All New Development		***61,532***	***4,035***	***6,500***
Total External Trips		***34,100***	***2,035***	***3,520***

* DU = Dwelling Units
** ksf = 1,000 square feet

b. Buildout Traffic Operations Without 2005 General Plan Circulation Improvements

Table 4.13-7 compares existing daily traffic volumes and roadway LOS with those projected with the "expected" buildout of the 2005 General Plan's land uses, without any of the county or city improvements to the roadways and/or intersections. The table also indicates the share of total future traffic that would be generated solely by development in Hughson, as opposed to the wider region. As shown, many of the city's arterial roadways, including Santa Fe Avenue and Geer Road north of Whitmore Avenue, would operate unacceptably (below LOS D) without any improvements.

Table 4.13-8 presents future intersection peak hour LOS, assuming development under the proposed General Plan occurs as anticipated, resulting peak hour traffic volumes occur and no improvements are made to existing intersections. As shown, major intersections on the regional arterial street system will operate at LOS F unless improvements are made. This is consistent with the roadway Level of Service projected for unimproved major streets described above. Projected traffic volumes at most major intersections would warrant signalization, even at intersections projected to operate at LOS D or better.

The following paragraphs provide a more detailed discussion of specific traffic-related problem areas within Hughson and its SOI, including several locations where there would be periodic congestion issues associated with school operations, even though the LOS D threshold would not be exceeded:

- **Whitmore Avenue near Hughson Schools.** Development under the 2005 General Plan would increase the daily traffic volume on Whitmore Avenue, especially near Hughson Elementary School and Hughson High School, from current volumes of about 2,750 ADT to more than 8,500 ADT. This increase would be associated with traffic from new commercial and residential development along 7th Street and Euclid Avenue, south of Whitmore, that would use Whitmore Avenue to reach the regional street system. While the forecast volumes would not exceed the LOS D threshold, they would contribute to periods of congestion during the beginning and end of the school day.

TABLE 4.13-7 **EXISTING AND FUTURE DAILY TRAFFIC VOLUMES AND LEVEL OF SERVICE (LOS)**

						Existing		Future		
	Road Name	**From**	**To**	**Type**	**Lanes**	**ADT**	**LOS**	**ADT** (Hughson Growth Only)	**ADT** (Regional Traffic)	**LOS**
East – West Roadways	Hatch Road	Santa Fe Ave	Tully Road	Arterial	2	10,525	D	6,310	**16,900**	**F**
		Tully Road	7th Street	Arterial	2	8,168	C	5,070	13,300	D
		7th Street	Geer Road	Arterial	2	7,001	C	2,480	9,500	D
	Alamos Drive		Santa Fe Avenue	Arterial	2	5,725 (1)	C	1,170	6,900	C
	Fox Road	Tully Road	7th Street	Local	2	1,164	C	1,175	2,450	C
		7th Street	Euclid Ave	Collector	2	2,443	C	2,300	4,750	C
		Euclid Road	Geer Rd	Collector	2	2,000 (e)	-	2,600	4,600	C
	Locust Street	Tully Road	7th Street	Collector	2	1,388	C	1,375	2,775	C
	Pine Street	Tully Road	7th Street	Local	2	630	C	1,110	1,750	C
	Hughson Ave	Santa Fe Ave	7th Street	Local	2	411	C	1,000	1,450	C
	Whitmore Ave		Tully Road	Local	2	2,150	C	680	2,850	C
		Tully Road	Santa Fe Ave	Arterial	2	6,117	C	6,675	**14,400**	**E**
		Santa Fe Ave	7th Street	Arterial	2	4,235	C	6,590	10,850	D
		7th Street	Euclid Ave	Arterial	2	3,000 (e)	-	4,960	8,000	C
		Euclid Ave	Geer Road	Arterial	2	2,742	C	6,775	8,520	C
	Service Road		Tully Road	Arterial	2	2,000 (e)	-	1,650	3,800	C
		Tully Road	Santa Fe Ave	Arterial	2	1,938	C	295	8,000	C
		Santa Fe Avenue	Geer Road	Arterial	2	2,000 (e)	C	2,810	8,900	C
North-South Roadways	Santa Fe Avenue		Hatch Road	Arterial	2	9,225 (2)	D	4,610	**17,385**	**F**
		Hatch Road	Alamos Drive	Arterial	2	7,764	C	6,550	**18,325**	**F**
		Alamos Drive	Tully Road	Arterial	2	7,500 (e)	C	7,960	**19,500**	**F**
		Tully Road	Whitmore Ave	Arterial	2	8,000 (e)	C	7,860	**19,400**	**F**
		Whitmore Ave	7th Street	Arterial	2	6,693	C	8,870	**19,550**	**F**
		7th Street	Service Road	Arterial	2	6,700 (e)	C	6,980	**18,900**	**F**
		Service Road	Geer Road	Arterial	2	6,704 (3)	C	7,340	**20,800**	**F**

					Existing		Future		
Road Name	**From**	**To**	**Type**	**Lanes**	**ADT**	**LOS**	**ADT** (Hughson Growth Only)	**ADT** (Regional Traffic)	**LOS**
	Geer Road		Arterial	2	6,700 (e)	C	3,980	**18,100**	**F**
Tully Road	Hatch Road	Narcisco Way	Collector	2	2,251	C	3,100	5,375	C
	Narcisco Way	Fox Road	Collector	2	2,545	C	5,240	7,800	C-D
	Fox Road	Santa Fe Avenue	Collector	2	3,000 (e)	C	6,580	9,580	D
	Santa Fe Ave	Whitmore Ave	Collector	2	7,605	C	5,700	**13,350**	**E**
	Whitmore Ave	Service Road	Collector	2	1,728	C	5,590	7,500	C
	Service Road		Collector	2	1,500 (e)	C	4,750	6,250	C
Charles Street	Whitmore Road	Fox Road	Local	2	1,326	C	1,370	2,700	C
5th Street	Whitmore Road	Elm Street	Local	2	543	C	450	1,000	C
7th Street	Hatch Road	Chantilly Way	Collector	2	2,754	C	1,070	3,850	C
	Chantilly Way	Fox Road	Collector	2	2,095	C	3,780	5,875	C
	Fox Road	Whitmore Ave	Collector	2	2,762	C	6,210	8,975	D
	Whitmore Ave	Santa Fe Ave	Collector	2	1,242	C	5,555	6,800	C
	Santa Fe Ave	Service Road	Collector	2	6,825	C	1,400	8,250	D
Euclid Avenue	Hatch Road	Fox Road	Collector	2	77	C	1,590	1,750	C
	Fox Road	Whitmore Ave	Collector	2	100 (e)	C	1,830	2,000	C
	Whitmore Ave	Service Road	Collector	2	-	-	6,230	6,300	C
Geer Road		Hatch Road	Arterial	2	11,805 (4)	-	2,160	**19,600**	**F**
	Hatch Road	Fox Road	Arterial	2	8,359	C	1,400	**15,350**	**E**
	Fox Road	Whitmore Ave	Arterial	2	8,000 (e)	C	1,800	**15,400**	**E**
	Whitmore Ave	Service Road	Arterial	2	6,949 (4)	C	435	13,000	D
	Service Road	Santa Fe Ave	Arterial	2	7,000 (e)	C	1,335	13,175	D
	Santa Fe Ave		Arterial	2	10,630 (4)	D	3,675	**17,850**	**F**

ADT -= Average Daily Traffic (e) Estimated volume based on is estimated based on observation and interpolation of counts on adjoining streets
All traffic counts were conducted during December 2004, except for those indicated as follows:
(1) Conducted November 2003 (2.) Conducted September 2004 (3.) Conducted April 2002 (4) Conducted April 2003

TABLE 4.13-8 **FUTURE PEAK HOUR INTERSECTION LEVEL OF SERVICE (LOS), WITHOUT IMPROVEMENTS**

	Intersection	Control Type	AM Peak Hour Delay (Seconds)	AM Peak Hour LOS	PM Peak Hour Delay (Seconds)	PM Peak Hour LOS	Signal Warranted?
1	Santa Fe Ave/ Hatch Road	All-Way Stop	>200	F	>200	**F**	Yes
2	Santa Fe Ave/ Tully Road	All-Way Stop	>200	F	>200	**F**	Yes
3	Santa Fe Ave/ Whitmore Ave	All-Way Stop	>200	F	>200	**F**	Yes
4	Santa Fe Ave/ 7th Street	NB/SB Stop	62.1	F	>200	**F**	Yes
5	Santa Fe Ave/ Geer Road	All-Way Stop	>200	F	>200	**F**	Yes
6	Hatch Road/ Tully Road	NB Stop	5.3	A	30.2	D	Yes
7	7th Street/ Whitmore Ave	All-Way stop	139.6	F	121.6	**F**	Yes
8	Geer Road/ Hatch Road	All-Way Stop	67.4	F	112.2	**F**	Yes
9	Geer Road/ Whitmore Ave	All-Way Stop	90.9	F	167.5	**F**	Yes
10	Hatch Road/ Mountain View Rd	NB Stop	2.1	A	18.5	C	Yes
11	Santa Fe Ave/ Mountain View Rd	WB Stop	1.8	A	37.0	**E**	Yes
12	Whitmore Ave/ Tully Road	NB/SB Stop	>200	F	>200	**F**	Yes
13	Whitmore Ave/ Euclid Ave	NB/SB Stop	14.4	B	15.7	C	No
14	Santa Fe Ave/ Euclid Ave	WB Stop	12.6	B	23.7	C	Yes
15	Santa Fe Ave/ Service Rd	EB/WB Stop	>200	F	>200	**F**	Yes

- **7th Street near Hughson Schools.** As with Whitmore Avenue, the traffic volume on 7th Street, north of Whitmore Avenue, is projected to approach 9,000 ADT. Again, while the projected volumes would not exceed the LOS D threshold, peak periods of congestion would be expected near the two schools during pick up and drop off hours.
- **Santa Fe Avenue.** The daily traffic volume on Santa Fe Avenue would exceed the LOS D threshold for a two-lane arterial street. Daily traffic forecasts in excess of this standard imply that unacceptable conditions would occur at major intersections during peak hour and that gaining access to Santa Fe Avenue will be difficult. Typically, most cities elect to plan for four-lane roadways at these traffic volume levels, but the presence of the BNSF railroad tracks limits the available right-of-way for roadway widening.
- **Hatch Road.** The daily traffic volume on Hatch Road, west of Santa Fe Avenue, will likely exceed the LOS D threshold. However, the volume from Hatch Road east to Geer Road is projected to remain at LOS D. Thus, implementation of the 2005 General Plan would likely contribute to the need for regional improvements to Hatch Road west of the Hughson to the Mitchell Road area in the City of Ceres. Improvements within the Ceres SOI would be covered by existing fee programs in that City, while development of a four-lane arterial section between the Ceres and Hughson SOIs would need to be addressed by a County fee program.
- **Tully Road.** The projected volume on Tully Road between Santa Fe Avenue and Whitmore Avenue would exceed the LOS D threshold for a two-lane collector street. Improvement of this street section to the arterial street standard would be needed.
- **Whitmore Avenue west of Tully Road.** The volume of traffic on Whitmore Road, west of Tully Road, is projected to marginally exceed the LOS D threshold. As with Hatch Road, development of the 2005 General Plan would likely contribute to the need for regional improvements to Whitmore Avenue, west of the community to the Mitchell Road area, in the City of Ceres. While improvements within the Ceres SOI would

be included in that City's existing fee programs, development of a four-lane arterial between the two SOIs would need to be addressed by a County fee program.

- **Geer Road**. The volume of traffic on portions of Geer Road are projected to exceed the LOS D threshold, although as noted in Table 4.13-7, the proportion of this traffic generated by new growth in Hughson would be relatively small. As with other regional roads, development of the 2005 General Plan would likely contribute to the need for regional improvements to Geer Road, especially in locations north and south of the city. Regionally, Geer Road would need to be improved to a four-lane roadway from Turlock to Oakdale, which would need to be addressed by a County fee program.

c. Proposed 2005 General Plan Circulation Improvements

Recognizing that traffic generated by the 2005 General Plan and regional growth would result in significant impacts to the roadways system if not mitigated, the 2005 General Plan proposes a number of changes to the circulation system that would be initiated by the City of Hughson, and new General Plan policies to address these concerns. In addition, Stanislaus County has a number of near-term planned improvements to the roadways within the traffic study area. City and County planned improvements, and relevant 2005 General Plan policies are described below:

i. Roadway Improvements

As noted in the Project Description, the General Plan proposes the following improvements to the roadway system:

- Capacity improvements to Santa Fe Avenue through widening to four lanes where feasible.
- Expansion of Hatch Road, Service Road, Geer Road and Whitmore Avenue, west of Tully Road, from two to four lanes each within the Hughson SOI, with participation in a regional approach to addressing the need to widen each road to four lanes between the SOI's of eastern Stanislaus County cities.

- Extension of Mountain View Road south across the Hatch Road Canal to relieve traffic from the Santa Fe Avenue/Hatch Road intersection.
- Provision of additional crossings across the Hatch Road canal at Mountain View Road and Euclid Avenue.
- Realign the 7th Street at-grade crossing to create a continuous collector road across Santa Fe Avenue.
- Extension of the current ¼-mile grid system to the northeast of the railroad to provide additional east-west collectors from 7th Street to Euclid Road, and a new north-south collector from Whitmore Avenue south between 7th Street and Euclid Avenue.
- Improvement of Tully Road and 7th Street south of the current city limits to serve as major collectors. Plan for the eventual expansion of Roeding Road and Mountain View Road to serve as major collectors when the industrial area eventually builds out.
- Realignment of Euclid Avenue to reduce the number of major roadways intersecting at the current five-way Santa Fe Avenue/Euclid Avenue/Service Road intersection.

ii. Intersection Improvements

The 2005 General Plan identifies intersection improvements that would be carried out by the City of Hughson, as well as improvements anticipated to be undertaken by Stanislaus County.

Stanislaus County has begun to plan for improvements to intersections and roadways that currently operate at poor conditions, and to provide capacity for potential future regional growth. Based on conversations with Stanislaus County Department of Public Works staff, the following projects are due to be implemented by the County:

- **Geer Road/Hatch Road.** Signalize intersection and widen approaches to accommodate two through-lanes and a left-turn lane in each direction.

- **Geer Road/Whitmore Avenue.** Signalize intersection and widen approaches to accommodate two through-lanes and a left-turn lane in each direction.
- **Fox Road/Geer Road.** Add left-turn lanes.
- **Santa Fe Avenue/Hatch Road.** Signalize intersection and widen approaches to accommodate two through-lanes and a left-turn lane in each direction.
- **Santa Fe Avenue/Geer Road.** Signalize intersection and widen approaches to accommodate two through-lanes and a left-turn lane in each direction.

In addition to these County-planned intersection improvements identified earlier, under the 2005 General Plan, Hughson would make the following improvements to intersections along Santa Fe Avenue:

- **Santa Fe Avenue/Tully Road.** Signalize the intersection, widen the Burlington Northern/Santa Fe railroad crossing and add auxiliary lanes.
- **Santa Fe Avenue/Mountain View.** Signalize with left-turn lanes.
- **Santa Fe Avenue/Whitmore Avenue.** Signalize the intersection, widen the Burlington Northern/Santa Fe railroad crossing and add auxiliary lanes.
- **Santa Fe Avenue/7th Street.** Signalize the intersection, re-align the two segments of 7th Street and widen to add auxiliary lanes.
- **Santa Fe Avenue/Euclid Avenue.** Relocate Euclid as proposed, signalize the intersection with left-turn lanes.
- **Santa Fe Avenue/Service Road.** Signalize the road with left-turn lanes.

The following city intersections would also be signalized, and left-turn lanes added where feasible:

- Hatch Road/Tully Road.
- Whitmore Avenue/7th Street
- Hatch Road/Mountain View

- Fox Road/Tully Road
- Fox Road/7th Street
- Service Road/Geer Road.

d. Buildout Traffic Operations (With 2005 General Plan Circulation Improvements)

Table 4.13-9 shows intersection LOS, with future traffic volumes and with the various intersection improvements described above. As shown in the table, the identified circulation improvements would allow all intersections to operate acceptably under future conditions with buildout of the 2005 General Plan's land uses. Expansion of Hatch Road, Geer Road, Santa Fe Avenue and Whitmore Avenue to the west of Tully Road, and upgrading Tully Road between Santa Fe Avenue and Whitmore Avenue to a two-lane arterial would improve these roadway segments to a LOS D or better, when compared to the LOS thresholds identified in Table 4.13-1.

Policies of the 2005 General Plan Circulation Element support the implementation of these needed improvements. For example, Policy C-1 (in the Errata) calls for the City to work with Stanislaus County and neighboring communities to make needed improvements to roadways and intersections outside of the city limits, and to request that the County's Regional Traffic Mitigation Fee program be updated to reflect needed improvement to the regional roadway system. In addition, Policy C-7.1 and 7.3 state that the City would work with the County to identify and implement improvements to the Hatch Road/Santa Fe Avenue intersection and consider appropriate regional funding programs to finance regional transportation improvements. Also, in regards to new development, Policy C-2.2 requires all new development to provide the improvements necessary to adequately serve the development's traffic access and circulation needs, such as roadway improvements, dedications of right-of-way and reciprocal easements. In addition to the 2005 General Plan policies, the 2005 General Plan Roadway Classifications and Standards include policy direction that would help implement the circulation plan. For

TABLE 4.13-9 **FUTURE PEAK HOUR INTERSECTION LOS, WITH IMPROVEMENTS**

			AM Peak Hour		PM Peak Hour	
	Intersection	**Control Type**	**Delay** (seconds)	**LOS**	**Delay** (seconds)	**LOS**
1	Santa Fe Ave/ Hatch Road	Signal/ Reconstruction*	32.2	C	36.7	D
2	Santa Fe Ave/ Tully Road	Signal/ Reconstruction	21.6	C	34.0	C
3	Santa Fe Ave/ Whitmore Ave	Signal/ Reconstruction	36.8	D	43.6	D
4	Santa Fe Ave/ 7th Street	Realignment/ Signal	16.1	C	27.3	C
5	Santa Fe Ave/ Geer Road	Signal/ Reconstruction*	33.5	C	48.7	D
6	Hatch Road/ Tully Road	Signal	14.1	B	18.1	B
7	7th Street/ Whitmore Ave	Signal	43.3	D	36.5	D
8	Geer Road/ Hatch Road	Signal/ Reconstruction*	14.3	B	15.7	B
9	Geer Road/ Whitmore Ave	Signal/ Reconstruction*	19.7	B	23.6	C
10	Hatch Road/ Mountain View Rd	Signal	11.6	B	16.7	C
11	Santa Fe Ave/ Mountain View Rd	Signal	7.4	A	15.7	C
12	Whitmore Ave/ Tully Rd	Signal	33.9	C	39.5	D
13	Whitmore Ave/ Euclid Ave	NB/SB Stop	14.4	B	15.7	C
14	Santa Fe Ave/ Euclid Ave	Signal	11.0	B	11.1	B
15	Santa Fe Ave/ Service Rd	Signal	33.3	C	41.9	D

* Funded by Stanislaus County

example, collector roadways are broken into three categories to better define their function, design, and required right-of-way size in response to projected traffic demand for each road: Downtown, Minor and Major.

While Santa Fe Avenue would operate at LOS D or better if it were expanded to four lanes, as is proposed in the 2005 General Plan, there is a possibility that portions of the roadway with existing development between 7th Street and the Sterling Glen subdivision may not be able to be expanded to four lanes. If this were to occur, parts of Santa Fe Avenue may continue to carry traffic volumes that would exceed the LOS D standard. However, in Policy C-1.2 the City also recognizes that achieving LOS D may not be feasible in all cases, due to constraints such as those along the Santa Fe Avenue corridor. Moreover, Action C-1 of the Circulation Element (in the Errata) directs the City to prepare a corridor study for Santa Fe Avenue that would provide a detailed strategy for implementing feasible improvements along the corridor, including identification of opportunities for widening where existing right-of-way is adequate, and estimating the costs to acquire additional right-of way where needed; an implementation strategy for the various mid-term intersection improvements (listed above) that would alleviate congestion along the roadway; and coordination with the Public Utilities Commission and Burlington Northern/Santa Fe Railroad to address future additional at-grade railroad crossings, and possible grade-separated crossings. Since the General Plan would permit some flexibility in adherence to the LOS D threshold, and identifies a detailed program to identify and implement all feasible capacity-increasing improvements along the Santa Fe Avenue corridor, the identified impacts associated with General Plan buildout would be less than significant.

As noted in the Existing Conditions section, seasonal traffic related to the agricultural harvest substantially worsens traffic conditions during the late summer months. In the future, this seasonal traffic would be likely to cause further intersections, in addition to those indicated above, to operate below LOS D during the late summer months. Circulation Element Policy C-1.2 (as amended in the Errata) establishes that the LOS D criteria is to be considered in relation to typical (non-harvest) conditions, in recognition of the rela-

tively limited period during which such conditions prevail, and the fact that increasing urbanization in the county is likely to decrease the severity of seasonal agriculture-related traffic impacts.

The General Plan also includes a series of goals, policies and actions that are intended to coordinate the provision of an adequate circulation system with the land uses proposed in the 2005 General Plan. Policies under Goal C-1 and C-2 of the Circulation Element seek to ensure a circulation system that provides adequate access and mobility, and that minimizes the potentially negative effects of new development on the current and future circulation system. For example, Policy C-1.3 seeks to maximize the capacity of the arterial and collector street system, and Action C-1.1 calls for the City to develop and adopt a standard methodology for analyzing future traffic impacts that recognizes seasonal and daily fluctuations in traffic volumes. Action C-1.2 would develop a Street Master Plan that includes design standards and cross-sections for the various components of the street network.

Until the Street Master Plan is developed, the 2005 General Plan also includes Policies C1 and C-2 (in the Errata), which require review, in coordination with the PUC and Burlington Northern/Santa Fe Railroad, of development that may affect the ultimate location and design of railroad crossings to ensure that adequate right-of-way area preserved for future improvements. Circulation Element Policy C-2.1 would also allow the City to require new development with the potential to generate more than 100 daily trips to prepare a traffic impact analysis that identifies potential traffic impacts and measures to reduce such impacts to an acceptable level.

With implementation of the 2005 General Plan circulation system improvements and policies, all roadway segments and intersections would be able to operate within the 2005 General Plan allowed LOS standards, and traffic operations impacts would be less-than-significant.

2. Traffic Safety and Emergency Access Impacts

The 2005 General Plan is not anticipated to create any new traffic safety hazards or interfere with emergency access, since its policies and actions explicitly seek to address these potential issues in future development.

As noted above, the 2005 General Plan calls for the development of a Street Master Plan for the various types of roadways in Hughson, which would have a primary consideration for vehicle safety and other road users. In addition, Circulation Element Action C-1.3 calls for the City to work with the Santa Fe Railroad and State PUC to improve safety issues associated with railroad crossings, and Action C-1.4 calls for the City to maintain a program to monitor locations with a high number of traffic accidents and to implement measures to reduce traffic hazards in those places.

Action PSF-2.2 in the Public Services and Facilities Element addresses emergency vehicle access, requiring all development applications to be reviewed by the Hughson and Stanislaus County Fire Protection Districts to ensure that adequate emergency access is provided.

3. Parking Impacts

As noted in the existing conditions section, there is adequate existing parking in Hughson. Although new residential and commercial development would create additional demand for parking in the City, all new development would be required to adhere to the City's parking standards, which would provide adequate parking in the future. Furthermore, policies under Goal C-4 of the Circulation Element specifically address the provision of adequate parking in the Downtown. Policy C-4.2 allows new development to satisfy parking requirements through utilization of existing on-street parking and shared parking where necessary. Policy C-4.3 encourages the efficient use of existing parking in the Downtown, through measures such as time-limits. Policy C-4.4 directs the City to consider establishing a downtown parking district to provide adequate and well-designed parking facilities in the Downtown. With all of these policies in place, there would be a less-than-significant parking impact as a result of the 2005 General Plan.

4. Bicycle, Pedestrian and Transit Impacts

The 2005 General Plan is not expected to generate any significant impacts with regard to bicycle, pedestrian and transit facilities, and indeed, would have a beneficial impact through its various policies that seek to improve existing facilities in Hughson.

Policies and actions under Goal C-6 of the Circulation Element seek to provide a bicycle and pedestrian network in Hughson. These policies include direction for the City to connect local bike and pedestrian routes to the County's network, including those in the County Regional Bicycle Action Plan (Policy C-6.2); requirements for new development to provide sidewalks and bicycle and pedestrian connections (C-6.3). Action C-6.1 would have the City prepare a Bicycle Master Plan for the city that identifies locations for new bike facilities. Policy C-6.4 states that the City will seek to connect gaps in the existing sidewalk system; Action C-6.2 calls for establishment of a Sidewalk maintenance fund to ensure that these pedestrian amenities are maintained in the future.

As a small, rural community with a dispersed population, public transit is relatively limited in Hughson. However, the 2005 General Plan contains policies that support the existing transit system that serves Hughson operated by Stanislaus Regional Transit (Policies C-5.1 and C-5.2), and supports the provision of feasible alternatives for commuters, such as ride-sharing and carpools (Policies C-5.3 and Action C-5.1).

5. Air Traffic Impacts

No impacts to air traffic would occur with the adoption of the 2005 General Plan. The nearest airport is over six miles away, and development in Hughson is not anticipated to create any safety issues, add to, or interfere with operations at that facility.

D. Cumulative Impact Analysis

The project-level traffic analysis above also addresses cumulative impacts to the regional transportation system since the traffic model used analyzed the cumulative impacts of the 2005 General Plan along with projected regional growth for Stanislaus County. No significant, unavoidable cumulative impact was identified.

Since the 2005 General Plan would only result in beneficial impacts to the bicycle, pedestrian and transit systems, there would be no cumulative impact in any of these areas.

E. Impacts and Mitigation Measures

Since the implementation of 2005 General Plan would not result in significant impacts related to traffic or transportation, no mitigations are required.

4.14 UTILITIES

This section describes the existing services for water, wastewater, stormwater drainage, solid waste and energy in Hughson. Potential impacts from the 2005 General Plan to the provision of these services are also discussed. The following is organized according to type of utility, with each service analyzed individually.

A. Water Service

A description of applicable regulatory programs addressing the provision of water in Hughson, as well as a discussion of existing water services and infrastructure, and supply and demand conditions for Hughson, follows.

1. Regulatory Setting

The following programs, policies and regulations control water service in Hughson.

a. Federal and State Regulations

Various federal and State regulations affect water services in Hughson, including:

i. Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) authorizes the United States Environmental Protection Agency (EPA) to set national health-based standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally-occurring and human-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require particular methods for treating water to remove contaminants for all water providers in the United States, except for private wells serving fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

ii. SB 610 and SB 221

Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) amend State law to better coordinate local water supply and land use decisions, and ensure adequate water supply for new development. Both statutes require detailed information regarding water availability to be provided to City and County decision-makers prior to approval of specified large development projects. Both statutes also require this detailed information be included in the administrative record that serves as the evidentiary basis for an approval action by the City or County on such projects. Both measures recognize local control and decision-making regarding the availability of water for projects and the approval of projects.

iii. Groundwater Management Act

The Groundwater Management Act, Assembly Bill 3030 (AB 3030), signed into law in 1992, established provisions by which local water agencies could develop and implement groundwater management plans (GMPs). A GMP was created for the Turlock groundwater basin, which serves the City of Hughson. The City adopted the GMP in 1997. As a result of the GMP process, the Turlock Groundwater Basin Association, of which Hughson is a member, undertook a Water Budget Study in the early 2000s, which concluded that while the groundwater levels are lower than 30 years ago, overall, the basin appears to be in equilibrium between extraction and recharge. However, the Water Budget Study did not make any determinations on the impact of increased urban growth on the groundwater table. Now that the Water Budget Study is completed, the GMP is being updated.[1]

b. Local Regulations

In addition to the federal and State regulations that affect Hughson, the City has adopted local plans and regulations that address the provision of water to the community.

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[1] Liebersbach, Debbie. Turlock Irrigation District. Personal communication with Catherine Reilly, DC&E. February 2, 2005.

i. 2003 Water Master Plan

The City completed a Water Master Plan in 2003, which evaluated existing and future water demands. Various improvement options were analyzed in regards to meeting future demand for water through different types of storage tanks and additional wells. Costs were also estimated for each of the improvement options studied to allow for the eventual determination of a preferred option by the City.

ii. Water Conservation Program

The City of Hughson recently enacted a Water Conservation Program aimed at preserving water, reducing the environmental impacts of overuse, and controlling costs for customers. The program limits times and days for landscape watering and vehicle washing, as well as outlines appropriate operation and maintenance of watering systems, fountains and other water displays.

iii. Standard Conditions of Approval

The Hughson Standard Conditions of Approval contains guidelines and regulations aimed at the maintenance of high water quality. During construction, new development is required to adopt Best Management Practices (BMPs) to minimize grading and control run-off, which pollutes storm drains that eventually can lead to pollution of groundwater sources. New development proposals are also reviewed for adequate drainage systems that ensure the project will not, over time, adversely affect water quality in the city.

2. Existing Setting

The City of Hughson operates its own water service with approximately 1,850 residential connections, 50 commercial connections, 10 industrial connections, and 10 public facility and church connections. All of Hughson's potable water is supplied from the Turlock groundwater basin, which comprises an area of about 540 square miles.[2]

[2] Turlock Groundwater Basin Association. October 2003. *Turlock Groundwater Basin Water Budget, 1952-2002*.

Hughson's existing water infrastructure system contains four active well sources and a water distribution system to provide potable water to residential, commercial and industrial uses. There are also two inactive wells, one which was abandoned due to high uranium levels, and a second that is out of service due to a deteriorated casing and pump. The active wells can each produce between 1,000 and 1,200 gallons per minute (gpm) for a total of 4,500 gpm or 6.5 million gallons per day (mgd).[3]

Generally, Hughson's potable water quality is good, meeting all current water quality standards in regards to allowable levels of regulated pollutants. Data gathered by the City indicates that the current water supply system and its contents are in compliance with existing State maximum contaminant levels (MCLs). Arsenic levels in Hughson register 11 parts per billion (ppb) on average, which although compliant with current regulations of 50 ppb, are one point higher than new standards established by the EPA, which will take effect in 2006. Once the new regulations come into effect, the City's potable water supply will exceed allowable arsenic levels. The City is working with the Department of Health to determine how to best address the issue of arsenic in the groundwater basin. This could include the installation of a mandatory arsenic removal system, which would add to the overall cost for the provision of potable water in Hughson.

a. Existing Demand and Short-term Improvements

In 1990, the City of Hughson Water Distribution System Study and Master Plan cited an average per capita water use of 250 gallons per day (gpd). The 2003 Water Master Plan used this figure to evaluate the current system in 2003 and estimate future demand for the city as a whole for 2005. The Master Plan estimated residential demand for 2005 at 1.3 mgd, commercial demand at 212,600 gpd, and industrial demand at 296,000 gpd, for a total 2005 demand of 1.8 mgd and a peak hour demand of 6.3 mgd.

[3] Thompson-Hysell Engineers. *City of Hughson Water System Master Plan*, October 2003, page 12.

The existing wells can pump adequate amounts of water to meet the 2005 demand; however, if one of the wells were to go out of service, the remaining wells would not have adequate capacity to meet the peak hour demand. As a result, the Master Plan recommended the following immediate system improvements to provide adequate back-up capacity and meet regulations:

- Upsizing of several 4-inch pipes in order to maintain minimum required pressures during peak conditions, which the City is already planning on completing.
- Installing back-up generators for wells 3 and 6, and adding Variable Frequency Drives (VFDs) to all four wells. The City has planned for the well 6 generator and needs to budget well 3.
- Adding one more potable well to the system at the current location of well 2 or installing a storage tank to support the four existing wells. The City is in the process of implementing this recommendation.

b. Planned Future Demand and Long-Term Improvements

As shown in Table 4.14-1, the 2003 Water Master Plan also looked at future demand scenarios for 2011, 2017 and 2023. Total population growth through 2023 is estimated in the Master Plan to reach 9,012, which would almost double the current residential water demand to a total of 2.3 mgd.[4] The Master Plan suggested either constructing new wells, or providing a combination of new wells with a new storage tank to meet the future demand. In addition, supplementary water line extensions are expected to accommodate new development areas.[5]

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[4] Thompson-Hysell Engineers. *City of Hughson Water System Master Plan*, October 2003, page 1-7.

[5] Thompson-Hysell Engineers. *City of Hughson Water System Master Plan*, October 2003, page 1-7.

TABLE 4.14-1 **AVERAGE DAY MASTER PLAN WATER DEMAND SUMMARY**

Projected Daily Demand	2005	2011	2017	2023
Residential Population	5,205	6,740	8,140	9,012
Residential Demand	1,301,250	1,685,000	2,035,000	2,253,000
Commercial and Industrial Demand	508,600	755,260	1,235,060	2,000,040
Total Average Day Flow (gpd)	1,809,850	2,440,260	3,270,000	4,253,040

Source: 2003 *City of Hughson Water System Master Plan*, page 6-8.

c. Future Water Sources

While the 2003 Water Master Plan calculated how much potable water would be needed to meet future needs in the city, it assumed that there would be adequate groundwater to support future growth and did not include an analysis of the actual carrying capacity of the aquifer (i.e., whether there is actually enough groundwater in the Turlock groundwater basin to support Hughson's future demand without depleting the groundwater basin). As mentioned under the Groundwater Management Plan discussion above, there has not been a comprehensive study done to calculate the carrying capacity of the Turlock groundwater basin.

The Water Budget Study that was completed in 2003 provided some historical data for the basin. Between 1963 and 1992, the groundwater basin was overdrawn or overdrafted (i.e., more water was taken out than was allowed to recharge the basin). However, between 1993 and 2002, the basin level has held steady overall, with some limited increases in storage. The report states that this information indicates the groundwater basin has reached a state of equilibrium. The report does not discuss how future changes in land use could affect the basin or why overdrafting of the groundwater basin appears

to have stopped.[6] However, during the period of 1993-2002, Stanislaus County experienced a population increase of about 19 percent, according to the California Department of Finance. While not all of this population increase occurred within the Turlock Groundwater Basin area, it shows that for at least the 1993-2002 period, urban growth was able to occur without adversely affecting the groundwater basin.

In the late 1980s and early 1990s, the City participated in a process led by the Turlock Irrigation District (TID) to explore the feasibility of creating a regional surface water system in response to potential changes in water quality regulations that would make the use of groundwater sources more costly. Under the proposal, the TID would build a water treatment plant to treat its water from the Don Pedro Reservoir for transfer to various local jurisdictions, in order to allow for a transition from dependence on groundwater to use of surface water. While this idea was revisited in the early 2000s, the TID planning process is still in the conceptual stage and the feasibility of the project will depend on the eventual evaluation by local jurisdictions in regards to the costs associated with creating a surface water system versus the continued use of groundwater.[7]

3. Standards of Significance

The proposed 2005 General Plan would have a significant impact on water service if it would:

- Have insufficient water supplies available to serve the project from existing entitlements and resources, therefore requiring new or expanded entitlements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the pro-

[6] Turlock Groundwater Basin Association. *Draft Turlock Groundwater Basin Water Budget 1952-2002*. October 2003. Page 6-1.

[7] Ness, Robert. Turlock Irrigation District. Personal communication with Catherine Reilly, DC&E. March 2005.

duction rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

- Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

4. Impact Discussion

Urban development within Hughson and the SOI, as proposed under the 2005 General Plan, would increase the demand for water service in the area. Additional water treatment and distribution facilities would be needed to support this demand.

To estimate the future demand for water that may result from the implementation of the 2005 General Plan, the "expected" 2005 General Plan growth projections described in Section 3: Projection Description, were compared to the growth projections used in the 2003 Water Master Plan. Based on the projected "expected" growth for the 2005 General Plan, the resulting net increase in demand for water in 2025 would be approximately 766,000 gpd more than was projected in the Master Plan, as shown in Table 4.14-2. One reason for the larger projected population is due to the two-year difference in planning horizons used by the 2003 Water Master Plan (year 2023) and 2005 General Plan (year 2025). The remainder of the difference is due to the use of different land use plans and development assumptions between the two documents. The Water Master Plan does not provide sufficent background information to allow for a detailed comparison on the assumptions used to project 2023 growth and the 2005 General Plan growth assumptions.

a. Availability of Adequate Water Supplies

Hughson will continue to be dependant on the Turlock groundwater basin for its water supply. Since there are no current studies for the Turlock groundwater basin that consider the impact of future urban growth on the

TABLE 4.14-2 **COMPARISON OF THE 2003 WATER MASTER PLAN AND 2005 GENERAL PLAN FUTURE WATER DEMAND**

Land Use Type	Generation Factor (gpd)	2023 MP Net Increase[1]	MP Total (gpd)	2025 GP Net Increase[1]	GP Total (gpd)
Residential	250	3,807	951,750	9,132	2,283,000
Neighborhood Commercial	5,000	10	50,000	4	20,000
Downtown Commercial	3,690	0	0	2	7,380
Service Commercial/ Public Facilities	3,070	288	884,160	48	147,360
General Commercial	3,920	0	0	59	231,280
Industrial	4,320	129	557,280	100	433,728
Agriculture	4,320	0	0	20	86,400
Total NET Increase			**2,443,190**		**3,209,148**

[1] For Residential, net increases are calculated by number of persons, while all the other categories are calculated by net increase in acres.
Sources: 2003 *City of Hughson Water System Master Plan* and 2005 General Plan.

groundwater basin, it is not possible to determine how conversion from agricultural uses to urban uses, as allowed under the 2005 General Plan, would affect the groundwater basin and whether the basin would be able to support the projected buildout. To make this assessment, a study would need to examine the existing amounts of groundwater use by existing agricultural uses and compare that usage to the level anticipated for urban uses that would replace the agricultural operations. However, based on the historical data provided by the Water Budget Study, some additional urban growth may not negatively impact the groundwater basin, since over the last 10 years, growth has occurred without overdrafting the basin. Depending on the type of agricultural production, it is possible that the conversion from agricultural uses to

urban uses would actually reduce per-acre water consumption, or at least not lead to an overdraft of the groundwater basin. The ultimate impact of future urban development would also depend not only on what development occurs, but also on what land uses are being replaced, the water usage and recharge capacities of those existing land use, and the changes in water usage by urban and agricultural uses.

The City recognizes that there is a need to ultimately determine the carrying capacity of the groundwater basin to allow for a comprehensive approach to managing the basin as future regional growth occurs. Therefore, the 2005 General Plan includes Action PSF-6.1 to continue to participate in regional groundwater basin planning efforts to determine the carrying capacity of the groundwater aquifer and ensure that future demand for water does not overdraft the groundwater supply. As a member of the Turlock Groundwater Basin Association, the City will also continue to participate in meetings and track any new interim information that would indicate that the groundwater basin is being overdrawn by growth in the basin area.

General Plan Policy PSF-6.6 addresses the period prior to completion of the regional groundwater basin capacity study by requiring that the approval of development be conditioned on the availability of sufficient water supply and storage. This policy, in conjunction with Standard Condition of Approval No. 95, which states that the City may withhold building permit approval for new development if there is insufficient water, would ensure that no development occurs unless adequate water supplies are available to support the increased demand. State regulations SB 610 and SB 221 also require new development to show that there is adequate water supply prior to project approval. Finally, the City's adopted water conservation program also helps reduce the overall demand for water within the community. As a result of the 2005 General Plan policies, and State and local regulations, implementation of the 2005 General Plan would not result in a significant impact associated with the availability of adequate water supplies or significant overdrafting of groundwater supplies.

b. Provision of New and Expanded Water Infrastructure

Based on the "expected" growth that would occur with implementation of the 2005 General Plan, additional infrastructure would be needed to treat and distribute water to new development. The 2005 General Plan includes policies to ensure that adequate water infrastructure is available to support this new growth. For example, Policies PSF-6.1 and PSF-6.2 state that the City would continue to expand its water treatment and distribution facilities to provide good quality drinking water to meet future demand generated by development allowed by the 2005 General Plan. At the same time, to control growth to the levels planned for in the 2005 General Plan, Policies PSF-6.2 and PSF-6.3 limit expansion of the water system to that which is needed to serve growth allowed by the General Plan. Policy PSF-6.4 provides for expansion of the water system to meet future demand, stating that the City will start planning and implementing necessary improvements at least two years before the capacity of existing facilities would be reached.

While the 2005 General Plan includes policies to ensure that adequate water infrastructure is provided, it is unknown at this time exactly where new water infrastructure would be placed. As needed to support new development, water mains would most likely be extended along roadways and other public right-of-ways to ensure easy access for maintenance. New water wells and storage facility locations will be determined by additional studies of topography, hydrology and land use patterns.

The specific environmental impact of constructing new water facilities to support the 2005 General Plan cannot be determined at this first-tier level of analysis. However, development and operation of new facilities may result in potentially significant impacts that are addressed by various plans, policies and mitigation measures identified in other sections of this EIR. Moreover, specific projects, including water system improvements, would be subjected to additional project-specific, second-tier environmental analysis at the time they are proposed.

5. Cumulative Impact Discussion

Future growth in Stanislaus County would generate an additional demand for water. A portion of this growth would be dependant on the Turlock groundwater basin for its primary water source. As mentioned above, the City would reduce its potential impact associated with groundwater depletion to a less-than-significant level through participation in regional basin planning efforts, and tying future development to availability of water. Since the groundwater basin is a regional resource, the regional capacity study and interim monitoring of the basin's capacity through participation on the Turlock Groundwater Basin by the City would take into consideration the cumulative use of the groundwater basin when determining if there is adequate water available for new Hughson projects. As a result, the 2005 General Plan would not contribute to a cumulative impact associated with groundwater supplies.

Future regional growth would result in a need for expanded water infrastructure throughout the County. However, only growth within Hughson and its SOI would result in the need for the City to construct additional water facilities to serve its population, resulting in additional environmental impacts. The above project-level analysis for the 2005 General Plan took into consideration all potential growth within the area that would be provided water service by Hughson and no significant impact was identified in regards to the construction of new and expanded facilities. Therefore, there would not be a significant cumulative impact associated with water services.

6. Impacts and Mitigation Measures

Since no significant impacts related to water were identified as a result of the 2005 General Plan, no mitigation measures are required. Policies and mitigation measures that are identified in other sections of this EIR would also apply to any unforeseen impacts associated with the construction and operation of water infrastructure.

B. Wastewater

The following provides a description of wastewater service in Hughson, including applicable regulatory programs, existing wastewater services and infrastructure, and supply and demand conditions within the city.

1. Regulatory Framework

The following programs, policies and regulations direct the collection, treatment and disposal of wastewater in Hughson.

a. National Pollutant Discharge Elimination System Program

As mentioned in Section 4.8: Hydrology and Water Quality, the State Water Resources Control Board (SWRCB) is responsible for implementing the federal Clean Water Act, and does so through issuing NPDES permits to Cities and Counties through regional water quality control boards (RWQCB). Hughson is within the Central Valley Regional Water Quality Control Board (CVRWQCB)'s boundary. Of the two permitting options for stormwater discharges allowed under federal regulations (individual permits and general permits), the SWRCB elected to adopt a state-wide general permit. The City of Hughson submitted a Draft Storm Water Management Plan (which includes wastewater) to the State on March 17, 2004, to comply with the SWRCB general permit.[8]

b. 2003 Wastewater Treatment Master Plan

In 2003, Hughson adopted a Wastewater Treatment Master Plan. The Master Plan evaluated existing wastewater treatment plant capacity and demand, recommended immediate actions to address compliance issues, and evaluated improvements necessary to support the anticipated future growth. To analyze various approaches to expand capacity and address violations, a preliminary technical study and peer review study of the wastewater treatment plant was completed in December 2004.

2. Existing Wastewater Facilities

The City of Hughson provides wastewater collection and treatment for the incorporated city and operates a wastewater treatment plant on the northern edge of the city, between Hatch Road and the Tuolumne River, as shown in Figure 4.12-1, in Section 4.12. The facility was completed in 1986 to accommodate the city's anticipated growth and is currently approaching capacity. The existing plant includes a series of 10 evaporation and percolation ponds, one of which is used for emergency storage. Pond usage fluctuates according to flows; three ponds were in use in 2004.[9]

All new development within the city is required to connect to the wastewater collection system, and septic systems are prohibited. There are currently approximately 1,850 residential connections, 50 commercial connections, 10 industrial connections, and 10 public facility and church connections. Major wastewater producers are residential units and the creamery.

According to the 2003 Wastewater Master Plan, the facility has an existing design capacity for dry weather flows of 800,000 gpd and up to 2.33 mgd for peak wet weather flows. The Master Plan estimated that in 2003, the total average daily dry weather flow was 552,000 gpd, for residential, commercial and industrial uses.[10] However, a later review of the treatment plant estimated the average flow in 2004 as 740,000 gpd.[11] The plant's permitted capacity is the same as its design capacity.[12]

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[8]http://www.waterboards.ca.gov/stormwtr/docs/hughson_swmp.pdf, accessed June 10, 2005.

[9] Thompson-Hysell Engineers. *City of Hughson Water System Master Plan*, October 2003, page 6.

[10] Thompson-Hysell Engineers. *City of Hughson Water System Master Plan*, October 2003, page 6.

[11] Carollo Engineers. *City of Hughson Wastewater Treatment Plan - Technical Memorandum Peer Review and Preliminary Design.* December 2004, page ES-1.

[12] Carollo Engineers. *City of Hughson Wastewater Treatment Plan - Technical Memorandum Peer Review and Preliminary Design.* December 2004, page 7.

The Master Plan estimates a 2030 demand for wastewater treatment at 1.3 mgd based on a projected 2030 population of 9,733 and a projected commercial and industrial flow of 500,000 gpd.[13] However, the Master Plan, does not include the assumptions used to calculate the demand for wastewater treatment, other than projected population.

There is an immediate need to upgrade the treatment facility to comply with State and federal regulations and address violations. The treatment plant has been found by the RWQCB to be in violation for total dissolved solids, electrical conductivity, total coliform organisms and nitrate as nitrogen. The RWQCB has also identified violations of acceptable sludge management practices and degradation of groundwater for total coliform, nitrate, salts and chloroform.[14]

Based on the 2004 preliminary technical study and peer review of the wastewater treatment plant, interim improvements to expand the facility will be implemented in 2005 to comply with State and federal regulations and correct existing violations. An Initial Study and Negative Declaration has been processed by the City for the interim improvements. As a result of improving the treatment facility to meet government standards, there will be an increase in capacity to 1.0 mgd. To pay for the needed improvements, the City has sold a portion of this excess capacity to developers.

The peer review study also calculated future demand for wastewater treatment for 2030. Since the report writers were unable to replicate the future growth projections used in the 2003 Water Master Plan, the peer review study assumed for 2030 average flows from the creamery of 0.2 mgd; a projected population of 11,250, with a demand of 107 gallons per capita per day; and a

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[13] Thompson-Hysell Engineers. *City of Hughson Water System Master Plan*, October 2003, page 33.

[14] City of Hughson. October 8, 2003. *Wastewater Treatment Master Plan*, Appendix H.

15 percent increase for uncertainty, to generate an average projected wastewater flow of 1.6 mgd for the year 2030.[15]

The peer review study identified several alternatives on how to expand the wastewater treatment plant to provide at least 1.6 mgd of capacity, with disposal of wastewater being the largest issue. These alternative range from utilizing existing percolation ponds, with improvements to the headworks, construction of a new oxidation ditch and the addition of a second sludge dewatering press. However, if the completion of a groundwater study finds that the percolation ponds do not have adequate capacity to support 1.6 mgd of flow, alternatives such as the use of recycled water or pumping to another jurisdiction's facility may be explored further.[16] Due to financial considerations and feasibility, long-term improvements to the treatment plant will most likely involve the expansion of the facility, water recycling and on-site treatment, versus constructing a piped connection to Turlock's facility.

3. Standards of Significance

The proposed 2005 General Plan would have a significant impact on wastewater service if it would:

- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Result in a determination by the wastewater treatment provider which serves or may serve the City that it has inadequate capacity to serve the 2005 General Plan's projected demand in addition to the provider's existing commitments.
- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

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[15] Carollo Engineers. *City of Hughson Wastewater Treatment Plan - Technical Memorandum Peer Review and Preliminary Design.* December 2004, page 2.

[16] Carollo Engineers. *City of Hughson Wastewater Treatment Plan - Technical Memorandum Peer Review and Preliminary Design.* December 2004, page ES-4.

4. Impact Discussion

The following provides an analysis of the potential impact of the 2005 General Plan on the provision of wastewater treatment services to Hughson.

a. Provision of Adequate Treatment Capacity

With the implementation of the 2005 General Plan, additional growth may occur requiring additional wastewater treatment capacity. The 2003 Master Plan does not include its generation assumptions for future demand, so these factors cannot be used to estimate future demand for the "expected" 2005 General Plan increase in development. However, using the peer review study's estimation of 3.3 persons per existing equivalent dwelling units (EDU) and the "expected" population increase of 9,132, there would be 2,767 new EDUs at buildout of the 2005 General Plan. The peer review study estimates that existing EDUs produce 355 gallons of wastewater per day. Applying this current demand factor to the expected EDUs in 2025, there would be a net increase of 1.0 mgd of residential demand for wastewater treatment in 2025, or a total of 1.6 mgd of residential demand with a total population of 15,074. The peer review study does not include generation factors for non-residential uses, assuming that industrial uses would not increase. The future demand for wastewater treatment from industrial uses could vary significantly since there is a wide range of generation factors depending on the type of industrial activity, but would be expected to be in excess of the 0.2 mgd already generated by the creamery. As a result, the future demand would probably exceed the 1.6 mgd capacity planned for in the peer review study.

Recognizing the need to plan for adequate wastewater treatment capacity, the 2005 General Plan includes several policies and actions addressing the provision of needed treatment facilities. Policy PSF-7.1 requires the City to begin planning for expansion of the treatment plant at least four years before the plant will reach its existing maximum capacity. Tied to this is Action PSF-7.1, which states that the City would update the Wastewater Treatment Master Plan on a regular basis, which would include updating it to take into consideration the 2005 General Plan growth assumptions. In the event that development pressures occurred faster than the City was able to expand the

treatment facility, Policy PSF-7.2 would condition the approval of new development on the availability of adequate long-term capacity for wastewater treatment. Other policies that address the provision of wastewater facilities include Policy PSF-7.3, which requires new development to ensure adequate downstream capacity to meet the development's demand. As new development would not be approved unless there is adequate capacity, the capacity of the wastewater treatment plant and collection system would not be exceeded.

To meet the future demand for wastewater services, expansion of the collection system and treatment plant would be needed. The improvements to the treatment plant would primarily occur on its existing site, while the collection system improvements would take place in conjunction with new development.

The specific environmental impact of constructing new wastewater facilities to support the 2005 General Plan cannot be determined at this first-tier level of analysis. However, development and operation of new facilities may result in potentially significant impacts that are addressed by various plans, policies and mitigation measures identified in other sections of this EIR. Moreover, specific projects, including wastewater system improvements, would be subjected to additional project-specific, second-tier environmental analysis when they are proposed.

b. Compliance with Treatment Requirements

As previously mentioned, the RWQCB has found the Hughson wastewater treatment plant to be in violation for total dissolved solids, electrical conductivity, total coliform organisms and nitrate as nitrogen. The RWQCB has also identified violations of acceptable sludge management practices and degradation of groundwater for total coliform, nitrate, salts and chloroform.

The City is already in the process of improving the wastewater treatment plan to correct the existing violations with the approved interim plant improvements. Future expansion of the treatment plant to support the 2005 General Plan would be required to comply with all RWQCB requirements as

part of approval to expand the permitted capacity of the treatment facility. Since the City is correcting existing violations and would be required to comply with RWQCB when expanding the plant to support the 2005 General Plan, implementation of the 2005 General Plan would not result in the exceedence of RWQCB water treatment requirements.

5. Cumulative Impact Discussion

Future regional growth would result in increased demand for wastewater services throughout Stanislaus County. However, only growth within Hughson and its SOI would result in the need for the City to construct additional wastewater facilities, resulting in additional environmental impacts. The project-level analysis above for 2005 General Plan took into consideration all potential growth within the area that would require wastewater service by Hughson and no significant impact was identified. Therefore, there would not be a significant cumulative impact associated with wastewater services.

6. Impacts and Mitigation Measures

Since no significant impacts related to sewer infrastructure and treatment requirements were identified as a result of the 2005 General Plan, no mitigation measures are required. Policies and mitigation measures that are identified in other sections of this EIR would also apply to any unforeseen impacts associated with the construction and operation of sewer infrastructure.

C. Stormwater

The City of Hughson and the Turlock Irrigation District (TID) are the two responsible agencies for stormwater collection, drainage and disposal in Hughson. The applicable regulations, existing drainage system and future demand for stormwater drainage are discussed in this section.

1. Regulatory Framework

There are federal, State, regional and local regulations and regulatory agencies that affect stormwater drainage within Hughson. Section 4.8: Hydrology and

Water Quality discusses these in detail. They include the Federal Water Pollution Control Act (Clean Water Act), SWRCB, CVRWQCB and the Hughson Standard Conditions of Approval. The City has not adopted a stormwater drainage master plan.

2. Existing Setting

The Hughson stormwater system is composed of neighborhood collection systems, detention/retention basins, rockwells, four stormwater pump stations, stormwater trunks and three discharge points to the TID canal. Stormwater is disposed of by percolation and by discharge into TID canals, which are located along Hatch and Service Roads. Discharge into a TID facility is permitted under a Revocable License Agreement with TID. As part of this agreement, the City is required to enforce regulations prohibiting dumping into any portion of the storm drainage system and ensure that stormwater discharged into the TID system does not exceed allowable levels of contaminants.[17]

Current regulatory trends suggest that increased regulatory monitoring, handling, treatment and disposal of stormwater may be required in the future. Due to increased growth within the region, TID facilities are starting to meet capacity for stormwater conveyance, and most of the TID system is committed to serve various jurisdictions. Finally, to allow for necessary servicing during the non-irrigation season (November to March), TID needs to maintain portions of its facilities in a dry condition. Unfortunately, the non-irrigation season coincides with the rainy season, when storm drainage is most needed.[18]

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[17] Liebersbach, Debbie. Turlock Irrigation District. Personal communication with Catherine Reilly, DC&E. April 8, 2005 and City of Hughson, *Draft Storm Water Management Program for the City of Hughson Report of Waste Discharge*, March 17, 2004, page 6.

[18] Liebersbach, Debbie. Turlock Irrigation District. Personal communication with Catherine Reilly, DC&E. April 8, 2005 and City of Hughson, *Draft Storm Water Management Program for the City of Hughson Report of Waste Discharge.* March 17, 2004, page 6.

3. Standards of Significance

The proposed 2005 General Plan would have a significant impact on the stormwater collection system if it would:

- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

4. Impact Discussion

As development occurs, as allowed under the 2005 General Plan, there would be a need for additional stormwater drainage facilities to collect and dispose of runoff from urban uses. Section 4.8: Hydrology and Water Quality describes in detail the policies contained in the 2005 General Plan to ensure that adequate stormwater facilities are provided by new development.

Because the 2005 General Plan is general in nature, the exact location of future stormwater drainage facilities in unknown at this time. However, as new development would be required to provide adequate on-site facilities to store associated stormwater runoff, it is anticipated that new drainage facilities would be scattered through the city and its SOI.

The specific environmental impact of constructing new stormwater facilities to support the 2005 General Plan cannot be determined at this first-tier level of analysis. However, development and operation of new facilities may result in potentially significant impacts that are addressed by various plans, policies and mitigation measures identified in other sections of this EIR. As specific projects, including stormwater drainage facilities, are identified, additional project-specific, second-tier environmental analysis would be completed pursuant to CEQA.

5. Cumulative Impact Discussion

Future regional growth would result in increased demand for additional stormwater drainage infrastructure throughout the County. However, only growth within Hughson and its SOI would result in the need for the City to construct additional stormwater drainage infrastructure, resulting in addi-

tional environmental impacts. The above project-level analysis for the 2005 General Plan took into consideration all potential growth within the area that would require stormwater drainage infrastructure in Hughson and the SOI, and no significant impact was identified in regards to the construction of new and expanded facilities. Therefore, there would not be a significant cumulative impact associated with stormwater drainage infrastructure.

6. Impacts and Mitigation Measures

Since no significant impacts related to stormwater facilities were identified as a result of the 2005 General Plan, no mitigation measures are required. Policies and mitigation measures that are identified in other sections of this EIR would also apply to any unforeseen impacts associated with the construction and operation of stormwater facilities.

D. Solid Waste

This section addresses the generation and disposal of solid waste, and the potential impact of the 2005 General Plan on this service.

1. Regulatory Framework

The State of California is a national leader in establishing regulations for waste management.

a. California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties throughout the State to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling and composting. To help achieve this, the Act requires that each City and County prepare and submit a Source Reduction and Recycling Element. AB 939 also establishes the goal for all California counties to provide at least 15 years of on-going landfill capacity.

2. Existing Setting

Solid waste and recycling is collected in Hughson through contracts with private solid waste service providers. Household and commercial garbage is collected on-site, on a weekly basis, under exclusive franchise agreement with R&R Disposal Service, a division of Waste Management, Inc. Recycling and yard waste are also picked up at Hughson residences by the same company on an alternating bi-weekly schedule, in curbside blue and green bins respectively. The collection of industrial wastes, including construction and demolition debris, is not bound to the exclusivity agreement and may be collected by any service provider that holds both a City of Hughson Business License and a current and valid Industrial Waste Collection Permit.[19]

Garbage is transported first to a transfer station in Modesto, where it is sorted to remove items that can be recycled. About 60 percent of the remaining waste that cannot be recycled is then sent to the County's Fink Road landfill, located in Crow's Landing. The other 40 percent is split between various facilities located both in and outside of the County. Residents may also drop off large amounts of garbage or debris in person at the landfill for a charge. Approximately 70 percent of the total garbage received at the landfill is processed at the on-site cogeneration plant, which is a waste-to-energy plant run by Covanta Energy. The remaining 30 percent, an average of 300 to 400 tons per day, is deposited in the landfill, with an additional 300 tons of ash generated by the waste-to-energy plant. The landfill has a permitted capacity until 2022 or 2023, depending on the type of permitted waste (ash generated by the co-generation plant versus municipal solid waste). When the cogeneration plant closes for maintenance, the landfill receives 100 percent of the solid waste delivery. In order to accommodate waste after 2023, the Fink Road landfill is currently undergoing a permitting process with the County to expand its site westward on a portion of the 2,700 acres owned by the County. A recycling center would be included in this expansion to further reduce the

[19] City of Hughson Public Works Department Web site, http://www.hughson.org/Public%20Works.htm, accessed January 13, 2005.

amount of landfilled waste. The landfill is currently permitted to accept up to 2,400 tons per day.[20]

In 2000, Hughson generated an annual total of 2,887 tons of non-recyclable solid waste, which was disposed at the following facilities:

- 1,809 tons at the Fink Road landfill, 1,309 tons went to the co-generation plant and 500 tons were assigned to the landfill
- 618 tons at the Forward, Inc. facility
- 265 tons at the Foothill Sanitary landfill
- 175 tons at the Bonzi Sanitary landfill
- 21 tons at the Highway 59 disposal site

Using the 2000 Hughson population of 3,980, the City generated approximately 0.7 tons of solid waste per capita per year.[21] In 2004, Hughson landfilled 1,136 tons of solid waste at the Fink Road landfill, 1,635 additional tons went to the cogeneration plant, and 33 tons landfilled at the Bonzi facility. The statistic for how much additional Hughson-generated waste was disposed of outside of Stanislaus County in 2004 is not available.[22]

The County also operates a free drop-off center in Oakdale for bulky wastes such as mattresses and appliances, which is open Fridays and Saturdays. This site does not accept hazardous waste or tires, and customers must show proof of residency and garbage service payment.

The City participates on the Stanislaus County Local Task Force on Solid Waste Management. This Task Force was formed pursuant to the Integrated

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[20] Garcia, Gerry and Grider, Ron. Stanislaus County Find Road Landfill. Personal conversation with Lisa Fisher, DC&E. June 1, 2005 and June 27, 2005 respectively.

[21] California Integrated Waste Management Board. 2000. *Jurisdiction Disposal and Alternative Daily Cover (ACD) Tons by Facilities Report* for Hughson.

[22] Kumimoto, Bryan. Stanislaus County Department of Solid Waste Management. Email dated June 23, 2005.

Waste Management Act and is formed of representatives from jurisdictions within the county. The Task Force serves as an advisory board for regional solid waste disposal activities.

3. Standards of Significance

The proposed 2005 General Plan would have a significant impact related to solid waste disposal if it would *not*:

- Be served by a landfill with sufficient permitted capacity to accommodate the buildout of the General Plan's solid waste disposal needs.
- Comply with federal, State and local statutes and regulations related to solid waste.

4. Impact Discussion

As Hughson grows, consistent with the 2005 General Plan, there would be an increased generation of solid waste. Based on the 2000 per capita rate of 0.7 tons per year, the "expected" population increase that may occur under the 2005 General Plan would result in the generation of an additional 6,400 tons of solid waste per year, or approximately 17.5 additional tons per day. When the cogeneration plant is operational, this would be less than one percent of the remaining daily permitted capacity of the Fink Road landfill, or 1.6 percent when the plant is closed for maintenance. As the solid waste generated by growth allowed by the 2005 General Plan would be less than 2 percent of the remaining daily permitted amount, and the current landfill has capacity until 2022 or longer if it is expanded as planned, the 2005 General Plan would not exceed the capacity of the landfill.

The 2005 General Plan includes policies to encourage recycling and waste reduction to minimize the amount of disposable solid waste generated by residents and businesses. Policy PSF-9.1 states that the City would continue to work with the Stanislaus County Local Task Force on Solid Waste Management to ensure that adequate solid waste services are provided to the community. Policy PSF-9.2 states that the City would seek to meet or exceed the State's requirements for waste diversion. Policy PSF-9.3 and Action PSF-9.1 identify the need to educate the public to reduce waste generation at the

source and recycle when possible. These 2005 General Plan policies would ensure that the City complies with applicable regulations related to the disposal and reduction of solid waste.

5. Cumulative Impact Discussion

Growth within Stanislaus County would contribute to the need for adequate solid waste disposal facilities. As discussed for the project-level analysis, the Fink Road landfill has capacity until at least 2022 or 2023, and is planning for additional expansions to meeting the regional demand for solid waste disposal. The cumulative population growth within the County was considered when evaluating the lifespan of the facility and planning for future expansions. As a result, it can be concluded that there would be adequate capacity to support regional increases in population, and a significant cumulative impact would not occur.

6. Impacts and Mitigation Measures

Since no significant impacts related to solid waste as a result of the 2005 General Plan were identified, no mitigation measures are required.

E. Energy Use and Conservation

The following describes current conditions and potential impacts of the 2005 General Plan with regard to energy use and conservation in Hughson.

1. Regulatory Setting

There are existing State and local regulations that work to reduce energy usage in new development in Hughson.

a. State Title 24 Energy Standards

The State Title 24 energy standards have been adopted by the State to reduce the overall energy usage of new development. Title 24 requirements address a wide range of design and performance features of development, including heating, cooling, shading and lighting.

b. Hughson Standard Conditions of Approval

The City's Standard Conditions of Approval require that information be provided to customers concerning options for energy-efficient appliances (Standard No. 58).

2. Existing Setting

The energy shortages and accompanying high utility rates of the 1970s and the year 2000 led to a heightened awareness of the need for energy conservation techniques as a means of saving money and natural resources, and reducing the need for rolling blackouts. Indeed, the benefits of energy conservation go well beyond financial savings for individual consumers. For example, the combustion of fossil fuels to produce heat or electricity, or to power internal combustion engines, has also been linked to poor air quality in the Central Valley, negative impacts on crops and global warming.

In Hughson, energy conservation can be achieved from reducing electricity and private automobile use, encouraging alternative energy sources, efficiently siting buildings related to sun exposure, and implementing land use and transportation policies that encourage fewer and shorter vehicle trips.

The TID provides electricity, and Pacific Gas and Electric (PG&E) supplies natural gas to Hughson's residents and businesses.

3. Standards of Significance

The proposed 2005 General Plan would have a significant impact related to energy provision systems if it would:

- Result in the wasteful, inefficient and unnecessary consumption of energy during construction or operation.

4. Impact Discussion

Implementation of the 2005 General Plan would result in the construction of new urban development that would use additional energy, both during construction, as well as for continued operation.

In addition to requiring developers to provide information on energy-efficient appliances (Standard Conditions of Approval, No. 58), the 2005 General Plan includes policies and actions to help reduce the overall consumption of electricity and natural gas by new development. For example, Policy COS-5.1 states that new development would be required to comply with State Title 24 energy conservation standards. In addition, Action COS-5.1 states that the City would also explore the creation of incentives to encourage development to incorporate energy conservation features, while Action COS-5.2 identifies that the City will also consider providing information to residents and developers about sustainable design principles and practices. For civic uses, Policy COS-5.3 states that the City would encourage the use of solar energy design in all civic buildings.

While new development will result in the increased demand for electricity and natural gas, implementation of the policies and actions contained in the 2005 General Plan would ensure that implementation of the 2005 General Plan would not result in wasteful, inefficient and unnecessary consumption of energy.

5. Cumulative Impact Discussion

As growth occurs throughout Stanislaus County, there will be an increased demand for electrical and natural gas. As discussed above, Hughson would avoid a significant project-level impact associated with the wasteful use of energy by implementing 2005 General Plan policies, as well as complying with State regulations. Similarly, other jurisdictions in Stanislaus County are required to meet State regulations in regards to energy conservation, such as required by Title 24. As a result, there would not be a significant cumulative wasteful, inefficient or unnecessary use of energy.

6. Impacts and Mitigation Measures

Since no significant impact related to energy usage was identified as a result of the 2005 General Plan, no mitigation measures are required.

5 ALTERNATIVES TO THE PROPOSED PROJECT

The 2005 General Plan has been described and analyzed in the previous sections with an emphasis on potentially significant impacts and recommended mitigation measures to avoid those impacts to the extent feasible. The State CEQA Guidelines also require the description and comparative analysis of a range of reasonable alternatives to the proposed project that could feasibly attain the objectives of the project.

The following discussion is intended to inform the public and decision-makers of project alternatives that have been developed and the positive and negative aspects of those alternatives. In accordance with the CEQA Guidelines and procedures, four project alternatives are discussed below. The first two alternatives discussed, the Existing General Plan Alternative and the Existing Conditions Alternative, are two versions of the CEQA required Existing General Plan alternative. CEQA Guidelines also require that the environmentally superior alternative be identified. This information is included at the end of this chapter.

The four alternatives presented and analyzed in this chapter are:

- **Existing General Plan Alternative.** Under this alternative, the 2005 General Plan Update would not be adopted, and the City of Hughson 1984 General Plan would remain in effect.
- **Existing Conditions Alternative.** Under this alternative, existing conditions in Hughson would persist with no future development.
- **Concentrated Growth Alternative.** In this alternative, the total amount of new development would be similar to that allowed under the 2005 General Plan but residential densities would be increased in and around existing developed areas, leaving more land designated as agriculture.
- **Reduced Density Alternative.** Under this alternative, the same amount of new development would be allowed as under the 2005 General Plan, but a wider area would be designated for low-density residential uses.

The Existing General Plan alternative assumes complete build out of the 1984 General Plan's land uses by 2025, as do the Concentrated Growth and Re-

duced Density Alternatives, and the proposed 2005 General Plan. In the Existing Conditions Alternative, no new development would occur, and so there is no buildout projection.

The Concentrated Growth and Reduced Density Alternatives are based on the same assumptions as the 2005 General Plan with regards to the rate and amount of residential and non-residential growth projected for the 20-year period from 2005 to 2025. The density of residential development in both alternatives varies from the 2005 General Plan, which affects the extent of development in Hughson and the SOI. These two alternatives would also include the goals, policies and actions included in the 2005 General Plan.

Table 5-1 summarizes the key features of each alternative, while Table 5-2 summarizes the result of analyzing each alternative against the impact factors considered for the 2005 General Plan, according to whether it would have a mitigating or adverse effect. This analysis is presented in greater detail in the following sections.

A. Existing General Plan Alternative

This section analyzes the Existing General Plan Alternative against the 2005 General Plan.

1. Principal Characteristics

The Existing General Plan Alternative assumes that development would occur as allowed under the existing 1984 General Plan and that the existing LAFCO-approved SOI would not be expanded. The same "expected" density and intensity assumptions that were used for the to project growth under the 2005 General Plan projections were used to calculate the expected number of residential units and non-residential square footage under the Existing General Plan Alternative. While designated for residential uses, the Arboretum and public school site south of Whitmore Avenue at 7th Street are assumed to develop as a park and school, as in the 2005 General Plan. The cold

TABLE 5-1 **PROJECT ALTERNATIVES SUMMARY**

Alternative Features	2005 General Plan	Existing General Plan Alternative	Existing Conditions Alternative	Concentrated Growth Alternative	Reduced Density Alternative
New Residential Units	2,753	1,440	0	2,753	2,753
New Non-Residential Square Footage	2,761,900	1,524,715	0	2,761,900	2,761,900
Net Population Increase	9,132	4,776	0	9,132	9,132
Change in Urbanized Area Compared to 2005 General Plan	n/a	465-Acre Decrease	No Change	131-Acre Decrease	297-Acre Increase

storage and pallet storage facilities to the northeast of Santa Fe Avenue at Tully Road are assumed to remain. Land between Euclid Avenue and Geer Road designated by the County for Agriculture are assumed to develop at the same density and intensity as the 2005 General Plan. However the remaining land outside the LAFCO-approved SOI designated by the County or Agriculture is assumed to only develop for very low density residential. Finally, the triangular area between Geer Road, Service Road and Santa Fe Avenue is assumed to develop as would be allowed under the 2005 General Plan, since that area is allowed is designated as Planned Development by the County.

2. Impact Analysis

The Existing General Plan Alternative would have the following impacts relative to adoption of the 2005 General Plan.

a. Aesthetics

While growth under the Existing General Plan Alternative would be subject to existing City regulations, such as the Design Expectations, the 1984

TABLE 5-2 **COMPARISON OF PROJECT ALTERNATIVES**

Impact Factor	Existing General Plan Alternative	Existing Conditions Alternative	Concentrated Growth Alternative	Reduced Density Alternative
Aesthetics	-- --	-- --	+	--
Agricultural Resources	+	+ +	+	-- --
Air Quality	+	+ +	+	--
Biological Resources	+	+ +	+	--
Cultural Resources	+	=	+	--
Geology and Soils	+	=	=	=
Hazards and Hazardous Materials	+	--	=	=
Hydrology and Water Quality	+	=	=	=
Land Use	=	-- --	=	=
Noise	+	--	=	=
Population and Housing	+	--	=	=
Public Services	+	=	=	=
Transportation	+	-- --	--	+
Utilities	+	-- --	=	=

+ + Substantial improvement compared to the proposed project.
+ Insubstantial improvement compared to the proposed project.
= Same impact as proposed project.
- Insubstantial deterioration compared to the proposed project.
- - Substantial deterioration compared to the proposed project.

Note: Competing aspects within some factors would create both improvement and deterioration simultaneously for a single alternative. These trade-offs are discussed in the text.

General Plan does not include many of the 2005 General Plan policies addressing the visual quality of new urban development. However, since the Existing General Plan Alternative would reduce the amount of land converted to urban uses by about 465 acres, compared to the 2005 General Plan, this alternative would contribute less to the cumulatively significant aesthetics impact. This significant, unavoidable cumulative impact would not be avoided, however, since, while to a lesser extent, the Concentrated Growth Alternative would still contribute to the countywide trend of converting agricultural land to urban uses in Stanislaus County. Overall, this alternative would be worse than the proposed project, since it would still have aesthetic impacts relative to land conversion and these impacts would be exacerbated by the lack of design policies in the General Plan.

b. Agricultural Resources

The Existing General Plan Alternative would designate 465 fewer acres for urban development, compared to the 2005 General Plan. While some of this area may develop as very low density residential uses, as allowed by the City and County's agricultural designations, there would be a decrease in the amount of agricultural resources lost to urban development. However this alternative would not avoid the significant, unavoidable impacts to agricultural resources, since it would still result in the conversion of agricultural land to urban uses.

c. Air Quality

The Existing General Plan Alternative would result in fewer residential and non-residential uses, so would generate fewer vehicle trips and pollution related to vehicle exhaust emissions. This alternative would generate approximately 21,500 average daily traffic trips (ADT) as compared to the 2005 General Plan, which would generate about 60,300 ADTs. Construction-related emissions would also be fewer under the Existing General Plan Alternative, since less new urban development would be expected to occur. As a result, the Existing General Plan Alternative would result in better air quality, relative to the 2005 General Plan. However, this would not avoid a significant, unavoidable impact since the population growth would still exceed that used

as an underlying basis in the regional Clean Air Plan and thus would also conflict with the Plan. Thus, the Existing General Plan alternative would represent an insubstantial improvement over the 2005 General Plan.

d. Biological Resources

The Existing General Plan Alternative would reduce the amount of land converted from farmland to urban development. As a result, there would be a decrease in the amount of raptor foraging land lost. In addition, there would be a reduction in the potential for other sensitive biological resources to be affected by conversion of land to urbanized uses. However, since the 2005 General Plan includes policies to mitigate impacts to biological resources to a less-than-significant level, the Existing General Plan Alternative would result in a insubstantial improvement to biological resources relative to the proposed project.

e. Cultural Resources

The Existing General Plan Alternative would reduce the amount of land converted from farmland to urban development. As a result, there would be a decrease in the amount of land that would be graded as part of construction activities, thereby reducing the risk of encountering subsurface cultural resources. However, since the 2005 General Plan includes policies to mitigate impacts to cultural resources to a less-than-significant level, the Existing General Plan Alternative would only result in a insubstantial improvement to cultural resources.

f. Geology and Soils

The Existing General Plan Alternative would result in a smaller number of new residents and new development subject to risk from geological and soils-based hazards than the 2005 General Plan. However, the 2005 General Plan includes policies and actions, and new development under the Plan would be subject to local, State a federal regulations, that would reduce the potential for a geology or soils related impacts to a less-than-significant level. As a result, the Existing General Plan Alternative would result in an insubstantial improvement over the 2005 General Plan.

g. Hazards and Hazardous Materials

The Existing General Plan Alternative would result in a smaller amount of new residential and commercial development, and would therefore expose fewer people to hazards and hazardous material sources, and reduce the number of potential new hazard materials generators. However, the 2005 General Plan contains policies and actions, and new development under the Plan would be subject to local, State and federal regulations that would reduce the potential for hazards and hazardous materials impacts to a less-than-significant level. As a result, the Existing General Plan Alternative would be an insubstantial improvement over the 2005 General Plan.

h. Hydrology and Water Quality

The Existing General Plan Alternative would reduce the amount of land converted from farmland to urban development, thereby reducing the amount of land subject to grading for construction. However, this area may still be cleared on a regular basis for agricultural activities, leaving bare soil open to erosion. Urban development under this alternative would be subject to the same General Plan policies and actions, as well as federal, State and local regulations as the 2005 General Plan, which would reduce the potential impacts on hydrology and water quality to a less than significant levels. The Existing General Plan Alternative would be an insubstantial improvement relative to the 2005 General Plan.

i. Land Use

Since neither the 2005 General Plan or the Existing General Plan Alternative would divide any existing communities, the alternative would be no better or worse than the proposed project. The Alternative would be subject to similar policies and legal requirements concerning updates of other land use plans and policies for consistency with it, and so the Existing General Plan Alternative would have a similar land use impact as the 2005 General Plan.

j. Noise

The Existing General Plan Alternative would generate less traffic, and thus there would be less traffic-generated noise than under the 2005 General Plan,

which would be an improvement over the proposed project. However, the 2005 General Plan includes policies and actions that would serve to reduce all identified noise impacts to a less-than-significant level. The Existing General Plan Alternative would be insubstantially better than the 2005 General Plan.

k. Population and Housing

The Existing General Plan Alternative would result in a buildout population smaller than that which would occur under the 2005 General Plan by about 4,360 people. As with the 2005 General Plan, this alternative would not require displacement of housing and population, or create new population growth beyond that which is expected or planned. As a result, the Existing General Plan Alternative would result in an insubstantial improvement in population and housing impacts compared to the 2005 General Plan.

l. Public Services

As noted above, the Existing General Plan Alternative would result in approximately 4,360 fewer persons at buildout than the proposed project, which would place a smaller demand on public services. However, since the 2005 General Plan includes a range of policies that would ensure the adequate provision of services, resulting in a less than significant impact. Therefore the Existing General Plan alternative be an insubstantial improvement over the proposed project.

m. Transportation

The Existing General Plan Alternative would generate less traffic than the 2005 General Plan since there would be less development, especially of commercial uses. This alternative would generate approximately 21,500 average daily traffic trips (ADT) compared to the 2005 General Plan, which would generate about 60,300 ADT. When broken down into residential and non-residential generated trips, the number of residential trips generated by the Existing General Plan Alternative would be almost half that generated by the 2005 General Plan, consistent with the difference in anticipated residential units. However, trips generated by the Existing General Plan Alternative for the non-residential uses would be about one quarter of that generated by the

2005 General Plan, a more substantial decrease relative to the decrease in commercial square footage.

While the Existing General Plan Alternative would generate less traffic, the 1984 General Plan does not provide detail on what improvements would be needed to the roadway system to accommodate projected traffic volumes. While this does not mean that the City would not ultimately make the needed improvements, the 1984 General Plan provides less explicit direction to guide planning and implementation of future traffic improvements, and so the 2005 General Plan represents an improvement over the 1984 General Plan in this regard. Assuming that needed improvements were made, there would be a decrease of potential traffic congestion, especially along Santa Fe Avenue where the 2005 General Plan designates a substantial amount of land for commercial uses. However, since the 2005 General Plan includes policies to mitigate all identified impacts to the circulation system to a less-than-significant level, the Existing General Plan Alternative would only result in a insubstantial improvement to traffic and transportation.

n. Utilities

The Existing General Plan Alternative would result in approximately 4,360 fewer persons at buildout than the proposed project, which would place a smaller demand on utilities. However, since the 2005 General Plan includes a range of policies that would ensure the adequate provision of utilities systems, resulting in a less than significant impact, the Existing General Plan alternative would be an insubstantial improvement over the proposed project.

B. Existing Conditions Alternative

This section analyzes the Existing Conditions Alternative against the 2005 General Plan.

1. Principal Characteristics

Under this alternative, existing conditions in Hughson would persist, with no future development. This alternative assumes that there would be no change to the existing conditions presented in Chapter 4 of this document. General Plan projections would not be relevant because no further development would be permitted. Although this alternative is extremely unlikely, it represents one variation on the "No Project" alternative whose analysis is required under CEQA.

2. Impact Analysis

The Existing Conditions Alternative would have the following impacts relative to adoption of the proposed General Plan Update.

a. Aesthetics

Under the Existing Conditions Alternative, neither land use development nor urban design improvements would occur. The benefit of the Existing Conditions Alternative over the General Plan Update would be that the present physical appearance and scenic resources would not change as a result of development; in particular, there would be no loss of the agricultural lands that contribute to Hughson's visual character. The drawback would be that other elements that detract from the City's character would not have the opportunity for improvement. For example, the City would not have the policy direction to make streetscape improvements, develop pedestrian amenities, maintain and enhance street trees in the downtown, or improve the appearance of entry corridors, all of which could enhance the community's small-town, rural and visual character. For this reason, the Existing Conditions Alternative is considered slightly worse compared to the General Plan Update with regard to visual and urban design.

b. Agriculture

The Existing Conditions alternative would retain substantial amounts of land around Hughson in agricultural uses, meaning that there would be no conflict with existing Williamson Act Contracts, or conversion of prime and unique farmland to urban uses. This would be a substantial improvement over the

2005 General Plan, which was found in the analysis in this EIR to create a significant unavoidable impact to agricultural resources.

c. Air Quality

Due to increases in local and regional traffic, air quality would worsen during the course of the buildout of the proposed General Plan. Some of this increase would be independent of any land use changes called for in the 2005 General Plan Update and would also occur under the Existing Conditions Alternative. However, the lack of new development in Hughson under the Existing Conditions Alternative would mean that there would be no air quality impacts generated by new land uses or construction. Also, the future population would be within, or smaller than the population projected by StanCOG used in regional clean air planning efforts, and consistent with it. Therefore, the Existing Conditions Alternative is considered to be substantially better than the proposed General Plan with regard to air quality.

d. Biological Resources

Because no future development would occur under the Existing Conditions Alternative, it has less potential than the General Plan Update to affect biological resources in Hughson. For this reason the Existing Conditions Alternative would be a substantial improvement over the 2005 General Plan with regard to biological resources.

e. Cultural Resources

Under the Existing Conditions Alternative, the policy guidance contained in the existing General Plan would still apply and would provide some protection to existing designated historical sites and buildings. Further, since there would be no development under the Existing Conditions Alternative, there would be less risk of loss of cultural resources to development. At the same time, new development that might provide opportunities for restoration or enhancement of existing historic resources would not occur. For these reasons, the Existing Conditions Alternative is considered to be similar to the 2005 General Plan with regard to cultural resources impacts.

f. Geology and Soils

The fact that no new development would occur under the Existing Conditions Alternative would mean that fewer people would be exposed to seismic hazards. However, the 2005 General Plan proposes several policies and programs to protect people and property from geologic and seismic hazards. Some of these regulations and requirements would be implemented through project specific environmental review and building requirements regardless of General Plan policy. However, other actions, such as those directing the City to inspect seismically unsafe buildings and implement retrofit plans, would not occur without implementation of the 2005 General Plan. For this reason, on balance, the Existing Conditions Alternative is considered to be approximately the same as the 2005 General Plan Update with regard to geologic and seismic hazards.

g. Hazards and Hazardous Materials

Since no new development would occur under the Existing Conditions Alternative, fewer people would be exposed to hazards and hazardous materials, and there no new sources of hazardous materials would be created. However, some of the policies and of the General Plan that address existing sources of hazardous material would not be enacted, such as conducting a study to created designated truck routes for hazardous materials through Hughson, would not take place, and so there would be no opportunity to improve the threat from these risks. Therefore, the Existing Conditions Alternative would be slightly worse than the 2005 General Plan with regard to Hazards and Hazardous Materials Impacts.

h. Hydrology and Water Quality

The changes in land use designations proposed by the 2005 General Plan would not present any greater danger from hydrologic or flooding hazards than do current conditions, since no land use changes proposed under the 2005 General Plan would expose new populations to flooding risk. Since there would be no new development under the alternative, there would be no increase in non-point source pollution that could impact local water quality; however, some of the policies and actions of the 2005 that are intended to

reduce existing sources of water pollutants (for example, monitoring leaks from sewer distribution and collection lines) would not be undertaken. Therefore, the Existing Conditions Alternative is considered to be approximately the same as the 2005 General Plan Update.

i. Land Use

No development would occur under the Existing Conditions Alternative, but in many parts of the city the existing development that would remain in Hughson would not differ greatly from the land use pattern proposed in the 2005 General Plan. However, this alternative would differ substantially from the 2005 in that the area southwest of Santa Fe Avenue, beyond the existing industrial area would remain primarily as agricultural land, and would not be converted to industrial uses. Similarly, lands on the east, and in the "triangle" between Santa Fe Avenue and East Hatch Road would also remain primarily as agriculture. The lack of additional development would reduce Hughson's ability to addressing existing needs, such as the need for more affordable housing and employment opportunities. There would be less opportunity to increase residential uses around the Downtown that could support downtown businesses and sustain the vitality of the area. These shortfalls would make the Existing Conditions Alternative somewhat worse than the proposed General Plan.

j. Noise

Due to increases in regional and local traffic, noise levels will increase during the course of the buildout of the 2005 General Plan. To some extent, these increases are independent of any land use changes called for in the General Plan Update and would also occur under the Existing Conditions Alternative. However, the lack of new development in Hughson under the Existing Conditions Alternative would mean that no additional noise would be generated by new land uses or construction. Therefore, the Existing Conditions Alternative is considered slightly better than the proposed General Plan with regard to noise.

k. Population and Housing

No development could occur under the Existing Conditions Alternative and therefore there would be no population and housing growth when compared to the General Plan Update. There would be no provision of new housing to meet identified needs for housing in the City and the region. Therefore, the Existing Conditions Alternative would be considered to have a slightly worse outcome as the proposed General Plan Update with regard to population and housing.

l. Public Services

As discussed in the land use and community service analyses in this report, the land use designation changes proposed by the General Plan Update would result in increased demands on community services, which would not occur under the Existing Conditions Alternative. Therefore, the Existing Conditions Alternative would be slightly better than the proposed General Plan Update with regard to demand on community services.

At the same time, the Existing Conditions Alternative would not allow the City to benefit from the General Plan Update policies regarding the expansion of law enforcement services, fire protection, school facilities provision, library services, or fire and police service improvement. Given these factors, the Existing Conditions Alternative would be considered equivalent to the Update in regards to community services.

m. Transportation

Under the Existing Conditions Alternative, neither land use development nor transportation system improvements would occur. The transportation system would continue to operate as it does currently.

Daily traffic volumes generated in Hughson under the Existing Conditions Alternative would be lower than under the proposed General Plan. However, regional traffic would continue to increase along many roadways in the Hughson Area. The intersection of Santa Fe Avenue and Hatch Road is operating unacceptably under existing traffic volumes. Other intersection may

also fail in the future with the addition of new regional traffic. The Existing Conditions Alternative would inadequately accommodate these existing and future problems because there would be no adjustments to the roadway network to accommodate regional traffic. Furthermore, the proposed improvements to the street, bicycle and pedestrian networks under the proposed General Plan would not be implemented under the Existing Conditions Alternative. Therefore, the Existing Conditions Alternative would be considered worse than the proposed General Plan Update.

n. Utilities

The infrastructure analysis in this EIR identified existing deficiencies in the existing water supply and distribution system, and the local wastewater treatment facility. Improvements to the wastewater treatment plant are already underway, and it is assumed would be undertaken under both the 2005 General Plan and the Existing Conditions alternative. Improvements to the water supply and distribution system are recommended for the short, medium and long term to meet current and projected demand from new population. The Existing Conditions Alternative assumes that no new development, nor any identified improvements to the water system, would occur. The 2005 General Plan Update provides guidelines for implementing these improvements, which the Existing Conditions Alternative does not, and the Existing Conditions Alternative would therefore not allow for the City to address these issues, which were projected for 2005 population levels. The analysis in this EIR also discusses groundwater supply. The status of this supply, which provides water for the wider region as well as for Hughson, is not known; however, the 2005 General Plan includes polices for the City to participate in a regional groundwater study and planning, which the existing General Plan does not. Overall, the Existing Conditions Alternative would be considered worse than the proposed General Plan Update with regard to utilities.

C. Concentrated Growth Alternative

This section analyzes the Concentrated Growth Alternative against the 2005 General Plan.

1. Principal Characteristics

The Concentrated Growth Alternative assumes the same final number of residential units in 2025 as the proposed 2005 General Plan, as well as the same goals, policies and actions. However, the density of residential development would increase to reduce the amount of agricultural land that would be needed to provide the same growth capacity. Some Low Density Residential areas in the city limits and SOI would be designated as High and Medium Density Residential. Additional Medium and High Density Residential uses would be focused around the commercial areas at the intersection of Santa Fe Avenue/Hatch Road and south of 7th Street. Also, the areas designated as Low Density and zoned for Rural Residential within the City along Fox Road would be rezoned to allow for R-1 single-family densities. As a result, residential growth would be limited to the area east of Euclid Avenue, in the area north of Whitmore Avenue, and midway between 7th Street and Euclid Avenue to the south of Whitmore Avenue. The SOI would still be expanded to Geer Road to ensure that an agricultural buffer is retained in this area.

2. Impact Analysis

The Concentrated Growth Alternative would have the following impacts relative to adoption of the 2005 General Plan.

a. Aesthetics

The Concentrated Growth Alternative would contain the same policies and actions addressing the visual appearance of new development as the 2005 General Plan. As a result, the potential project-level aesthetic impacts of new development would be mitigated in the same manner as the 2005 General Plan. However, since the Concentrated Growth Alternative would reduce the amount of land converted to urban uses by about 131 acres, compared to the 2005 General Plan, this alternative would contribute less to the significant

cumulative aesthetics impact. This significant, unavoidable cumulative impact would still not be avoided, however, since the Concentrated Growth Alternative would still contribute to the countywide trend of converting agricultural land to urban uses in Stanislaus County.

b. Agricultural Resources

The primary difference between the Concentrated Growth Alternative and the 2005 General Plan is that the Concentrated Growth Alternative would designate 131 fewer acres for urban development, since it would focus new residential uses as high-density residential development over a more limited area.. While some of this agricultural land may develop as very low density residential uses, as allowed by the City and County's agricultural designations, there would be a decrease in the amount of agricultural resources lost to urban development. However, while the Concentrated Growth Alternative would have a substantial improvement when compared to the 2005 General Plan, this alternative would not avoid a significant, unavoidable agricultural resources impact, since it would also result in the conversion of agricultural land to urban uses.

c. Air Quality

The Concentrated Growth Alternative would result in the same number of housing units and non-residential square footage, so would generate a similar number of vehicle trips. However, this alternative would concentrate residential development closer to proposed commercial areas. As a result, there may be an slight decrease in vehicle trips generated by residents compared to the 2005 General Plan if more residents choose to walk or bicycle to local stores and a slight (insubstantial) improvement in air quality. Nonetheless, this would not avoid a significant, unavoidable impact since the population growth would still exceed that assumed in the adopted regional Clean Air Plan and would thus remain inconsistent with the Plan.

d. Biological Resources

The Concentrated Growth Alternative would reduce the amount of land converted from farmland to urban development. As a result, there would be

a decrease in the amount of raptor foraging land lost. In addition, there would be a reduction in the potential that other sensitive biological resources would be affected since less land would be urbanized. However, since the 2005 General Plan includes policies to mitigate impacts to biological resources to a less-than-significant level, the Concentrated Growth Alternative would only result in a insubstantial improvement to biological resources.

e. Cultural Resources

The Concentrated Growth Alternative would reduce the amount of land converted from farmland to urban development. As a result, there would be a decrease in the amount of land that would be graded as part of construction activities, thereby reducing the risk of encountering subsurface cultural resources. However, since the 2005 General Plan includes policies to mitigate impacts to cultural resources to a less-than-significant level, the Concentrated Growth Alternative would only result in a insubstantial improvement to cultural resources.

f. Geology and Soils

The Concentrated Growth Alternative would result in the same number of people subject to the risk of geological and soils-based hazards as 2005 General Plan. The Concentrated Growth Alternative would also be subject to the same General Plan policies and actions, as well as federal, State and local regulations, that would reduce the potential for a geology or soils related impact to a less-than-significant level. As a result, the Concentrated Growth Alternative would result in a similar impacts as the 2005 General Plan.

g. Hazards and Hazardous Materials

The Concentrated Growth Alternative would result in the same number of housing units and non-residential square footage, so would generate a similar increase in population and amount of hazardous materials and waste as the 2005 General Plan. The Concentrated Growth Alternative would be subject to the same General Plan policies and actions, as well as federal, State and local regulations, that would reduce the potential for a hazards and hazardous materials related impact to a less-than-significant level. As a result, the Con-

centrated Growth Alternative would result in a similar impact as the 2005 General Plan.

h. Hydrology and Water Quality

The Concentrated Growth Alternative would reduce the amount of land converted from farmland to urban development, thereby reducing the amount of land subject to grading for construction. However, this area may still be cleared on a regular basis for agricultural activities, leaving bare soil open to erosion. Urban development under this alternative would be subject to the same General Plan policies and actions, as well as federal, State and local regulations as the 2005 General Plan, which would reduce the potential impacts on hydrology and water quality to a less than significant levels, resulting in a similar level of impact between the alternative and the 2005 General Plan.

i. Land Use

Since the 2005 General Plan does not divide any existing communities, there would be no relative improvement under the alternative. The alternative would also be subject to the same General Plan policies in regards to updating other land use plans and policies for consistency, and so the Concentrated Growth Alternative would have a similar land use impact as the 2005 General Plan.

j. Noise

The Concentrated Growth Alternative would result in the same number of housing units and non-residential square footage, so would generate a similar number of vehicle trips, resulting in a similar noise impact. The alternative would include the same General Plan noise policies as the 2005 General Plan, so would reduce potential noise impacts to a less-than-significant level. As a result, the Concentrated Growth Alternative would result in the same noise impacts in comparison to the 2005 General Plan.

k. Population and Housing

The Concentrated Growth Alternative would result in the same number of housing units and non-residential square footage, so would induce the same

planned population growth as the 2005 General Plan. As with the 2005 General Plan, this alternative itself would not require displacement of housing and population. As a result, the Concentrated Growth Alternative would result in the same population and housing impact as the 2005 General Plan.

l. Public Services

As the Concentrated Growth Alternative would result in the same number of housing units and non-residential square footage, it would result in a similar increase in demand for public services as the 2005 General Plan. The alternative would include the same General Policies to address the provision of public services and mitigation of potential impacts associated with the construction of new facilities. As a result, the Concentrated Growth Alternative would result in the same public services impact as the 2005 General Plan.

m. Transportation

The Concentrated Growth Alternative would result in the same number of housing units and non-residential square footage, so would generate a similar but potentially smaller number of vehicle trips. Slightly reduced trip generation may be achieved if the proximity of residential and commercial uses inherent to this alternative eliminates some local trips. The alternative would include the same General Plan policies and street improvements as the 2005 General Plan. With the concentration of residential uses along 7th Street and along Mountain View Road, traffic along these two roadways would increase. This would contribute to the periodic congestion around the schools and increase congestion at intersections on Whitmore Road where improvements beyond those anticipated under the 2005 General Plan will be difficult to make. Fox Road and other new collectors to the north of Whitmore Avenue could also be affected since more people will be using them for east-west connections with the increase in density in the northern area. These changes could create a significant impact to these roadways and intersections if LOS D is exceeded. As a result, the Concentrated Growth Alternative may have a slightly greater impact to portions of the circulation system in comparison to the 2005 General Plan.

n. Utilities

As the Concentrated Growth Alternative would result in the same number of housing units and non-residential square footage, it would result in a similar increase in demand for utilities as the 2005 General Plan. The alternative would include the same General Policies to address the provision of utilities and mitigation of potential impacts associated with the construction of new facilities. As a result, the Concentrated Growth Alternative would result in the same utilities impact as the 2005 General Plan.

D. Reduced Density Alternative

This section analyzes the Reduced Density Alternative against the 2005 General Plan.

1. Principal Characteristics

The Reduced Density Alternative would provide for the same number of new residential units, but would replace most of the proposed Medium Density and High Density Residential designated land with the Low Density Residential designation. Also, the "expected" density for the Low Density Residential category would be adjusted to reflect a higher percentage developed at one to three units per acre density, which would correspond with the City's Rural Residential zoning category. These very low density residential areas would be concentrated between Euclid Avenue and Geer Road. As a result, the proposed SOI would remain the same, but instead of an agricultural buffer between Euclid Avenue and Geer Road, that area would be developed with Low Density Residential uses. To support this new residential development, new east-west collectors would be extended to Geer Road. The Reduced Density Alternative would include the same goals, policies and actions as the 2005 General Plan, except those that would create an agricultural buffer between Euclid Avenue and Geer Road.

2. Impact Analysis

The Reduced Density Alternative would have the following impacts relative to adoption of the 2005 General Plan.

a. Aesthetics

The Reduced Density Alternative would contain the same policies and actions addressing the visual appearance of new development as the 2005 General Plan. As a result, the potential project-level aesthetic impacts of new development would be mitigated in the same manner as the 2005 General Plan. However, since the Reduced Density Alternative would increase the amount of land converted to urban uses by about 297 acres, compared to the 2005 General Plan, this alternative would contribute more to the cumulative significant aesthetics impact. However, this would represent an insubstantial percentage increase in land converted to urban uses (and thus an insubstantially worse level of impact) when considered on a cumulative basis across the county as a whole.

b. Agricultural Resources

The primary difference between the Reduced Density Alternative and the 2005 General Plan is that the Reduced Density Alternative would allow for the urbanization of the 297-acre agriculture buffer identified in the 2005 General Plan between Euclid Avenue and Geer Road. In addition to allowing for the loss of over 290-acres of agricultural land and related uses, this alternative would not include an agricultural buffer to help minimize future pressures on agricultural lands to the east. As a result, the Reduced Density Alternative would result in a substantial deterioration compared to the 2005 General Plan.

c. Air Quality

The Reduced Density Alternative would result in the same number of housing units and non-residential square footage, and so would generate a similar number of vehicle trips as the 2005 General Plan. However, this alternative would spread residential uses over a larger area, decreasing the number of people within walking range of local commercial uses. Thus, there may be an increase in vehicle trips generated by residents compared to the 2005 General

Plan since more residents would drive to local stores versus walk or bike. As a result, the Reduced Density Alternative would provide an insubstantial deterioration in air quality in comparison to the 2005 General Plan.

d. Biological Resources

The Reduced Density Alternative would allow for additional development between Euclid Avenue and Geer Road. While there is limited biological resources in the area, this alternative would result in the loss of more potential foraging habitat for raptors and may affect other sensitive biological resources within the area. Since this alternative would also be subject to the 2005 General Plan policies that address the protection of biological resources, the alternative's impacts to biological resources would be reduced to a less-than-significant level. As a result, the Reduced Density Alternative would have a insubstantial deterioration in comparison with the 2005 General Plan.

e. Cultural Resources

The Reduced Density Alternative would allow for additional development between Euclid Avenue and Geer Road. While there is a low probability for archeological and paleontological resources to occur in the Hughson area, this alternative would result in more extensive grading activities and may affect additional unknown cultural resources within the area. Since this alternative would also be subject to the 2005 General Plan policies that address the protection of cultural resources, the alternative's impacts to cultural resources would also be reduced to a less-than-significant level. As a result, the Reduced Density Alternative would have a insubstantial deterioration in comparison with the 2005 General Plan.

f. Geology and Soils

While the Reduced Density Alternative would allow for more intensive residential development between Euclid Avenue and Geer Road compared to the 2005 General Plan, there are no geological or soil related hazards in that area that would increase the risk of geology and soils hazards to development. In addition, the Reduced Density Alternative would be subject to the same General Plan policies and actions, as well as federal, State and local regulations,

that would reduce the potential for a geology or soils related impact to a less-than-significant level. As a result, the Reduced Density Alternative would result in a similar impact as the 2005 General Plan.

g. Hazards and Hazardous Materials

The Reduced Density Alternative would result in the same number of housing units and non-residential square footage, so would generate a similar increase in population and amount of hazardous materials and waste as the 2005 General Plan. The Reduced Density Alternative would be subject to the same General Plan policies and actions, as well as federal, State and local regulations, that would reduce the potential for a hazards and hazardous materials related impact to a less-than-significant level. As a result, the Reduced Density Alternative would result in a similar impact as the 2005 General Plan.

h. Hydrology and Water Quality

The Reduced Density Alternative would increase the amount of land converted from farmland to urban development, thereby increasing the amount of land subject to grading for construction. However, urban development under this alternative would be subject to the same 2005 General Plan policies and actions, as well as federal, State and local regulations, which would reduce the potential impacts on hydrology and water quality to a less-than-significant level. Thus, impacts would be similar to those projected to occur under the 2005 General Plan.

i. Land Use

Since the area between Euclid Avenue and Geer Road does not include any established communities that would be divided by the Reduced Density Alternative and the alternative would be subject to the same General Plan policies in regards to updating other land use plans and policies for consistency, the Reduced Density Alternative would have a similar land use impact as the 2005 General Plan.

j. Noise

The Reduced Density Alternative would result in the same number of housing units and non-residential square footage, so would generate a similar number of vehicle trips, resulting in a similar noise impact. The alternative would include the same General Plan noise policies as the 2005 General Plan, so would reduce potential noise impacts to a less-than-significant level. As a result, the Reduced Density Alternative would result in the same noise impacts in comparison to the 2005 General Plan.

k. Population and Housing

The Reduced Density Alternative would result in the same number of housing units and non-residential square footage, so would induce the same planned population growth as the 2005 General Plan. As with the 2005 General Plan, this alternative itself would not require displacement of housing and population. As a result, the Reduced Density Alternative would result in the same population and housing impact as the 2005 General Plan.

l. Public Services

Since the Reduced Density Alternative would result in the same number of housing units and non-residential square footage, it would result in a similar increase in demand for public services as the 2005 General Plan. The alternative would include the same General Policies to address the provision of public services and mitigation of potential impacts associated with the construction of new facilities. As a result, the Reduced Density Alternative would result in the same public services impact as the 2005 General Plan.

m. Transportation

The Reduced Density Alternative would result in the same number of housing units and non-residential square footage, so would generate a similar number of vehicle trips. The alternative would include the same General Plan policies as the 2005 General Plan, so would reduce potential traffic impacts to a less-than-significant level. In addition, traffic patterns could change to an extent, since there would be fewer trips generated along 7th Street, so the periodic congestion related to the schools would be reduced. There would also

be a redistribution of vehicles using Geer Road as primary access, which would reduce some of the vehicle traffic at the Santa Fe Avenue/7th Street intersection and the Mountain View Road/Hatch Road and Mountain View Road/Santa Fe Avenue intersections. While the changes generated by the Reduced Density Alternative could improve the operation of these intersections to an extent they are not considered substantial improvements since the 2005 General Plan will already have mitigated these intersections to an acceptable level of service through its identified circulation system improvements.

n. Utilities

As the Reduced Density Alternative would result in the same number of housing units and non-residential square footage, it would result in a similar increase in demand for utilities as the 2005 General Plan. The alternative would include the same General Policies to address the provision of utilities and mitigation of potential impacts associated with the construction of new facilities. As a result, the Reduced Density Alternative would result in the same utilities impact as the 2005 General Plan.

E. Environmentally Superior Alternative

CEQA requires the identification of the environmentally superior alternative in an EIR. Based on the above analysis, which is summarized in Table 3-2, the Existing General Plan Alternative is the Environmentally Superior Alternative. This alternative would minimize significant, unavoidable impacts to Agricultural Resources and Air Quality, and hence is environmentally superior to the 2005 General Plan.

However, the Existing General Plan would no accommodate the growth foreseen for the City of Hughson, so it is not feasible to implement. Moreover, it would not include the policy guidance needed to accommodate future growth. For this reason, the City of Hughson is moving forward with the 2005 General Plan Update.

Of the two non-"Non Project" alternatives, the Concentrated Growth Alternative would be the best in terms of its environmental impacts relative to the 2005 General Plan. Both the Existing Conditions Alternative and the Reduced Density Alternative would both result in more detrimental impacts than they would improvements when compared to the 2005 General Plan.

6 CEQA-REQUIRED ASSESSMENT CONCLUSIONS

As required by CEQA, this chapter provides an overview of the impacts of the proposed 2005 General Plan based on the technical analyses presented in this EIR. The topics covered include growth inducement, unavoidable significant effects, and expected significant irreversible changes. A more detailed analysis of the effects the 2005 General Plan would have on the environment is provided in Chapter 4: Environmental Evaluation.

A. Growth Inducement

A project is typically considered to be growth-inducing if it fosters economic or population growth. Typical growth inducements might be the extension of urban services or transportation infrastructure to a previously unserved or under-served area, or the removal of major barriers to development. Not all growth inducement is necessarily negative. Negative impacts associated with growth inducement occur only where the projected growth would cause adverse environmental impacts.

Growth-inducing impacts fall into two general categories: direct and indirect. Direct growth-inducing impacts are generally associated with the provision of urban services to an undeveloped area. The provision of these services to a site, and the subsequent development, can serve to induce other landowners in the vicinity to convert their property to urban uses. Indirect, or secondary growth-inducing impacts consist of growth induced in the region by the additional demands for housing, goods and services associated with the population increase caused by, or attracted to, a new project.

1. Direct Impacts

The 2005 General Plan would directly induce population, employment and economic growth by allowing for development in areas that are not currently designated for urban growth. Implementation of the 2005 General Plan would result in the following growth patterns based on the "expected" growth assumptions for both the city and its SOI:

- Under buildout conditions in 2025, the 2005 General Plan would add 9,132 new residents to the existing 2005 population, which is 3,643 people over the total population anticipated by the 2025 StanCOG projection of 11,431.
- Under buildout conditions in 2025, the 2005 General Plan would add 2,753 residential units to the 1,930 households existing in 2005.
- Under buildout conditions in 2025, the 2005 General Plan would add 2,761,900 new square feet of non-residential uses to the approximately 242,000 square feet existing in 2005.

The 2005 General Plan includes policies to control how growth occurs within Hughson and the SOI in order to ensure that it is well managed; infill development is encouraged and "leap-frog" development discouraged. For example, Policy LU-1.1 phases development through the use of a Primary and Ultimate SOI, which were designed to focus development adjacent to existing urban development and infrastructure. Policy LU-1.1 also encourages infill development through the modification of development requirements.

The 2005 General Plan does provide for the adequate provision of public services and utilities to serve this new growth. However, the 2005 General Plan also includes policies to control the expansion and provision of utilities, including water service, to those areas identified in the city limits and SOI (Policy PSF-6.2 and PSF-6.3). As a result, the expansion of new public services and utilities to serve the growth allowed under the 2005 General Plan would not occur in such a way that it would support growth in excess to what has been identified in the 2005 General Plan.

Stanislaus County also has policies to focus new development to existing urban communities. The County's Urban Transition designation applies to areas where additional urban development should occur, as consistent with an applicable city General Plan. The 2005 General Plan includes Policy LU-1.2 which would request the County to update its General Plan to designate all of the SOI to the west of Euclid Avenue as Urban Transition, but maintain the Agriculture designation on the agriculture buffer between Euclid Avenue and

Geer Road to create a growth limit line. Also, Policy COS-1.4 of the 2005 General Plan states that the City would discourage the County from approving any urban development proposals outside of its SOI.

As a result, while the 2005 General Plan would result in an increase of growth locally, the policies included in the Plan reduce the potential for negative impacts associated with directly induced growth to a less-than-significant level.

2. Indirect Impacts

While the 2005 General Plan does allow additional growth, it also includes specific policies and actions that limit that growth to the city limits and SOI, as mentioned above. For example, Policies LU-1.3 and COS-1.3, and Actions LU-1.2, LU-1.3 and COS-1.1 work to discourage development outside the defined city limits and SOI, and create a regional community separator program to limit urban development to existing urban communities. In addition, the 2005 General Plan land use map works to create a limitation to the expansion of urban growth by creating an agricultural buffer between Euclid Avenue and Geer Road. The land use plan also provides a mixture of housing, shopping and employment opportunities so that as the number of residents increase they do not pressure adjacent communities to provide new commercial and employment opportunities. Also, as previously stated, the water and sewer infrastructure would be limited in size to meet the needs generated by the 2005 General Plan. As result, the 2005 General Plan policies would result in a less-than-significant indirect growth inducing impact.

B. Unavoidable Significant Impacts

While the majority of impacts associated with the 2005 General Plan would be reduced to a less-than-significant level, adoption and implementation of the 2005 General Plan would result in the following significant and unavoidable impacts:

- **Aesthetics Impact A-1:** While the 2005 General Plan would not result in a project-level impact, cumulative development in Hughson and the SOI

would contribute to the cumulative change in the visual character of the County, from an agricultural character to a more urban appearance. This cumulative impact would be considered significant and unavoidable.

- **Agricultural Resources Impact AG-1:** While mitigated to the extent feasible, development permitted under the implementation of the 2005 General Plan would result in a significant and unavoidable impact related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as these lands are developed for urban uses.
- **Agricultural Resources Impact AG-2:** While mitigated to the extent feasible, implementation of the 2005 General Plan would result in a significant and unavoidable impact to agricultural resources since the 2005 General Plan would allow urban uses on areas in the SOI that are currently zoned by the County for agricultural use and/or under active Williamson Act contracts.
- **Agricultural Resources Impact AG-3:** While mitigated to the extent feasible, implementation of the 2005 General Plan would result in incompatible urban uses being developed adjacent to agricultural uses, which could result in the conversion of farmland to non-agricultural use and a significant and unavoidable impact to these resources.
- **Agricultural Resources Impact AG-4:** Cumulative development in Hughson and its SOI would contribute to the on-going loss of agricultural lands in the region. This cumulative impact would be considered significant and unavoidable.
- **Air Quality Impact AIR-1**: The 2005 General Plan would not be consistent with applicable air quality plans of the SJVAPCD, since population growth that could occur under the 2005 General Plan would exceed that projected by StanCOG and used in projections for air quality planning. The projected growth would lead to an increase in the region's VMT, beyond that anticipated in the SJVAPCD's clean air planning efforts. The increase in VMT that would occur under the General Plan, relative to that projected by StanCOG, is less than 1 percent.

The 2005 General Plan prioritizes infill of existing neighborhoods and ensures that urban development occur adjacent to existing urbanized areas. It also includes a number of policies to reduce single-occupant vehicle trips and other air pollutant sources. However, because these policies, and the mitigation measure identified above, would not completely mitigate this impact, it is considered significant and unavoidable.

- **Air Quality Impact AIR-2:** Cumulative development in Hughson and its SOI would contribute to on-going air quality issues in the San Joaquin Valley Air Basin. This cumulative impact would be considered significant and unavoidable.

C. *Significant Irreversible Changes*

Section 15126.2(c) of the CEQA Guidelines requires a discussion of the extent to which a proposed project will commit nonrenewable resources to uses that future generations would probably be unable to reverse. An example of such an irreversible commitment is the construction of highway improvements that would provide public access to previously inaccessible areas.

A project would generally result in a significant irreversible impact if:

- Primary and secondary impacts would commit future generations to similar uses.
- The project would involve a large commitment of nonrenewable resources.
- The project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project.

1. Changes in Land Use that Commit Future Generations

Development under the 2005 General Plan would result in the conversion of vacant and agricultural lands to industrial, commercial and residential uses, and the intensification of underutilized areas. This development would constitute a long-term commitment to residential, commercial, industrial, park-

ing and other urban uses. The 2005 General Plan would result in the commitment of 465 additional acres of land that are not currently designated for development in the 1984 General Plan.

2. Commitment of Resources

Development allowed under the 2005 General Plan would irretrievably commit nonrenewable resources to the construction and maintenance of buildings, infrastructure and roadways. These non-renewable resources include mining resources such as sand, gravel, steel, lead, copper and other metals. Buildout of the 2005 General Plan also represents a long-term commitment to the consumption of fossil fuels, natural gas and gasoline. Increased energy demands would be used for construction, lighting, heating and cooling of residences, and transportation of people within, to and from the city and SOI. 2005 General Plan policies and actions promoting energy conservation (Policy COS-5.1, Policy COS-5.3, Action COS-5.1 and Action COS-5.2) would result in some savings in non-renewable energy supplies.

Implementation of 2005 General Plan would also result in an irreversible commitment of limited, renewable resources such as lumber and water. 2005 General Plan policies and actions promoting resource and water conservation and green building (Policy COS-5.2 and Action COS-5.2) would result in some savings of renewable resources.

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Appendix A

Notice of Preparation

Notice of Preparation

To:

From: Barry Siebe, Planning Director
City of Hughson
7018 Pine Street
PO Box 9
Hughson, CA 95326

The City of Hughson will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the Hughson General Plan Update. The project description, location and the potential environmental effects are described below. The public is invited to provide comments in writing on issues to be addressed in the EIR. Public agencies with views on the scope of the Draft EIR as per the project description, or issues that are germane to your agency's statutory responsibilities in connection with the proposed project, please let us know in writing.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but no later than March 30, 2005, 30 days from the publication date of this NOP. You can also attend the public scoping meeting to be held on March 16, 2005 at the Third Street Center, 2413 Third Street, Hughson, CA 95326.

Please send your response to Barry Siebe, Planning Director, Planning Department, City of Hughson, at the address shown above. We respectfully request that each response contain contact and agency information.

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1. Project Name: Hughson General Plan Update

2. Project Site and Location:

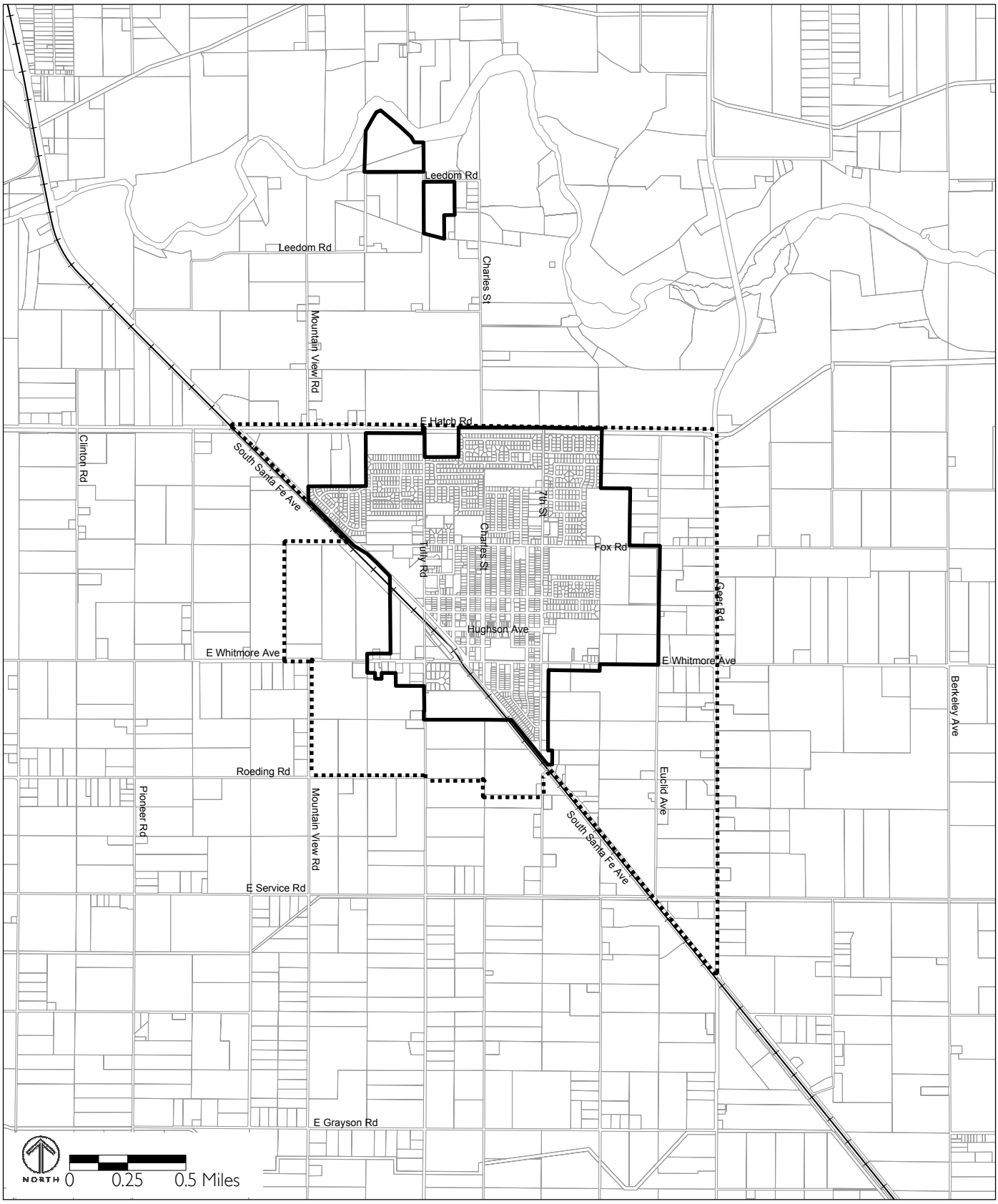
Hughson is a small city in Stanislaus County, located in the Central Valley approximately 90 miles south of Sacramento and 10 miles southeast of Modesto. There are no major highways through or adjacent to Hughson. Hughson has a population of about 6,000. The city limits cover approximately 1.1 square miles of relatively flat land, with residential uses being the most predominant land use. The Sphere of Influence (SOI) contains another 1.5 square miles of flat land, with agricultural uses being the most prevalent land use. Together, the city limits and SOI comprise the study area for the City of Hughson General Plan Update EIR. Figure 1 depicts the proposed study area. The SOI boundary may either contract or expand slightly as the General Plan Update process proceeds.

3. Lead Agency Contact:

Barry Siebe
City of Hughson
7018 Pine Street, PO Box 9
Hughson, CA 95326
Phone: 209-883-0811 Fax: 209-883-9725

4. Project Sponsor's Name and Address:

City of Hughson
7018 Pine Street, PO Box 9
Hughson, CA 95326



Data Source: Stanislaus County GIS, City of Hughson

FIGURE 1

Sphere Of Influence

City Limits

EIR PROPOSED STUDY AREA

CITY OF HUGHSON
GENERAL PLAN UPDATE EIR

5. Project Description:

Hughson is a small town facing growth pressures, as are most Central Valley communities. In order to respond to these pressures in a deliberate and thoughtful way, the City of Hughson is preparing a General Plan Update to replace the existing City of Hughson General Plan from 1984. The EIR will provide an assessment of the General Plan Update, which is expected to be completed in 2005 and which will guide future growth in the City through 2025, including the potential annexation of lands identified in the SOI for development within the city limits. The overall purpose of the General Plan Update is to create a policy framework that articulates a vision for the City's long term physical form and development, while preserving and enhancing the quality of life for Hughson residents. The key components of the General Plan Update will include broad community goals for the future of Hughson, objectives for meeting those community goals, and specific policies and implementing actions that will help meeting the objectives.

The State requires that the General Plan contain seven elements: Land Use, Circulation, Housing, Open Space, Noise, Safety and Conservation. The proposed General Plan Update will contain all of these elements except for the Housing Element, which is being certified separately. Additionally, the proposed General Plan Update will contain an optional Public Services and Facilities Element.

6. Probable Environmental Impacts of the Project

The EIR for the General Plan Update will address the range of impacts that could result from adoption and implementation of the General Plan Update. Below is a short summary of potential impacts that will be examined in the Hughson General Plan Update EIR:

	Aesthetics		Agricultural Resources		Air Quality
	Biological Resources		Cultural Resources		Geology/Soils
	Hazards/Hazardous Materials		Hydrology/Water Quality		Land Use/Planning
	Mineral Resources		Noise		Population/Housing
	Public Services		Recreation		Transportation/Traffic
	Utilities/Service System		Mandatory Findings of Significance		

A. Aesthetics

The General Plan Update EIR will include an analysis of potential impacts on visual, aesthetic and scenic resources in the City and SOI. The General Plan Update will include policies addressing visual and scenic resources, aesthetic character and urban design. Where necessary, the EIR will identify mitigation measures to address significant impacts.

B. Agricultural Resources

The city limits and SOI contain approximately 1,200 acres of agricultural lands, much of which is designated as Prime Farmland. Some of the farmland within the SOI is under Williamson Act contracts. Most of the farmland within the city limits and SOI, west of Euclid Avenue, would be converted to urban uses under the proposed General Plan Update, resulting in a potential impact to agricultural resources. The EIR will evaluate the impacts related to loss of farmland in the SOI and city limits, and identify mitigation measures to reduce the impacts to the extent feasible.

C. Air Quality

Development under the proposed General Plan Update would result in an increase in the number of vehicle trips or a change in land uses that could have air quality implications, potentially resulting in significant impacts. The General Plan Update EIR will describe baseline air quality conditions, including federal/State attainment status for air pollutants. The EIR will analyze the impacts to air quality of projected growth and transportation demand under the proposed General Plan Update. Policies and actions in the General Plan Update will be evaluated relative to those suggested by SJVAPCD and an assessment of future air emissions resulting from Plan implementation will be provided. Sensitive receptors and objectionable odors will also be addressed. Where necessary, mitigation measures will be identified to address significant impacts.

D. Biological Resources

While the majority of the land within the city limits and SOI has been converted from natural habitat to urban or agricultural uses, development activity under the General Plan Update has the potential to impact remaining biological resources and ecologically sensitive habitats in the city limits and SOI. Development within the city limits and SOI could result in the loss of some of these biological resources. General Plan Update policies are anticipated to address habitat conservation and species protection and minimize impacts to special status species, if necessary. Where necessary, the EIR will identify mitigation measures to address any significant impacts.

E. Cultural Resources

With its historic downtown and the potential for archaeological and paleontological resources to be encountered during construction, there is the possibility of historic, archaeological and paleontologic resources within the city limits and SOI being impacted by growth associated with the General Plan Update. These cultural resources will be identified in the EIR. The General Plan Update is anticipated to include policies that address the management and protection of significant cultural resources. Where necessary, the EIR will identify mitigation measures to address any significant impacts.

F. Geology/Soils

While Hughson is located in one of the portions of California with the least risk of seismic related hazards, the EIR will assess the City's susceptibility to seismic hazards, as well as the suitability of local soils for construction and development. Where necessary, the EIR will identify mitigation measures to address any significant impacts associated with implementation of the proposed General Plan Update.

G. Hazards & Hazardous Materials

Hazardous materials usage, transportation and storage is highly regulated by federal, State and local governments. Therefore, the implementation of the proposed General Plan Update is not expected to have significant environmental impacts related to the release of or exposure to hazardous materials or waste. Nevertheless, the EIR will evaluate the current status of major sites of concern and include findings based on reviews of regulatory databases and regulatory agency files. Where necessary, the EIR will identify mitigation measures to address any significant impacts associated with implementation of the proposed General Plan Update.

H. Hydrology/Water Quality

Flooding hazards in Hughson related to flooding are mainly associated with the risk of dam inundation from the San Pedro Dam since the city is generally outside of the Tuolumne River floodplain. However, development under the proposed General Plan Update has the potential to cause changes in the amount and quality of groundwater supplies and increase the amount of impervious surfaces within the city limits and SOI. These changes could affect groundwater tables and cause erosion. The EIR will review and evaluate existing and future groundwater supplies and the capacity of the storm drainage system relative to the Plan's proposed build-out. The General Plan Update is also anticipated to include policies designed to mitigate water supply, flooding and storm drainage impacts, as well as policies to encourage water conservation. Where necessary, the EIR will identify mitigation measures to address any significant impacts.

I. Land Use/Planning

Policies in the proposed General Plan Update are unlikely to result in a division within an established community since many of the Plan's policies will seek to protect existing neighborhoods. The EIR will evaluate any potential impacts from changes in land use that could affect adopted plans and policies or conservation plans, and include mitigation measures to address identified impacts, if necessary.

J. Mineral Resources

There are no active mineral extraction operations in Hughson or its SOI. However, the Department of Conservation will be consulted to identify any known or potential mineral resources in Hughson or its SOI. If any are identified, potential land use changes will be analyzed to identify potential impacts to mineral resources.

K. Noise

Development under the proposed General Plan Update is likely to result in an increase in noise generated from changes in land use and from vehicular traffic. The EIR will analyze the potential effects of General Plan Update policies on the creation of new noise and changes to existing noise

environments, including noise from vehicular traffic, land uses and train operations. The General Plan Update is anticipated to include policies designed to minimize future noise impacts. Where necessary, the EIR will identify mitigation measures to address any significant impacts.

L. Population/Housing

The proposed General Plan Update is being prepared to accommodate for the potential for growth in population and housing in the Hughson study area. The EIR will identify the population and housing growth that could be accommodated under the proposed Plan and analyze the impacts of this growth on infrastructure, services and resources. The proposed General Plan Update is not expected to result in the displacement of substantial housing and population, since the majority of new development would occur on undeveloped land. However, this issue will be evaluated in the EIR and mitigation measures will be identified to address any significant impacts.

M. Public Services

Implementation of the proposed General Plan Update would likely result in an increase in demand for public services such as fire and emergency services, law enforcement, schools, parks and other public facilities. The EIR will document existing public services within the City of Hughson and SOI and evaluate the ability of these services to meet the demands of future growth under the proposed General Plan Update. New or physically altered facilities needed to provide adequate service will be identified, as well as potential impacts related to construction of these facilities. Where necessary, the EIR will identify mitigation measures to address any significant impacts.

N. Recreation

Implementation of the proposed General Plan Update has the potential to increase the demand for parks and recreational services and could result in a need for new or expanded parks or recreational facilities. The EIR will include an inventory of existing park, recreation and open space resources in the study area and an analysis of the ability of these resources to support future growth. Potential impacts related to use and expansion of existing facilities and construction of new facilities will be identified and, where necessary, the EIR will identify mitigation measures to address significant impacts.

O. Transportation/Traffic

Land use changes and development under the proposed General Plan Update will result in an increased number of vehicle trips and changes to traffic patterns. This could lead to increased congestion in some parts of the study area. The EIR will analyze existing and future levels of service within the study area and address impacts to both regional and local street networks resulting from General Plan Update implementation. Potential impacts will be identified and where necessary, the EIR will identify mitigation measures to address significant impacts.

P. Utilities/Service Systems

Implementation of the proposed General Plan Update would result in additional demand for sewage treatment services, water services and storm drainage services within the study area. The EIR will describe and evaluate existing and future water supplies and facilities, wastewater treatment facilities and storm drainage infrastructure relative to the Plan's potential build-out. Development under the General Plan Update also has the potential to result in an increased demand for landfill capacity. The EIR will thus evaluate whether future development could exceed the capacity of existing landfills and have an impact on other solid waste facilities. Potential impacts will be identified and the EIR will identify mitigation measures to address significant impacts, where necessary.

Q. Mandatory Findings of Significance

The EIR will evaluate the General Plan Update's potential to cause substantial adverse effects on humans, degrade the quality of the environment, or harm fish, wildlife or plant species, as required under the mandatory findings of significance. Cumulative impacts will also be considered.

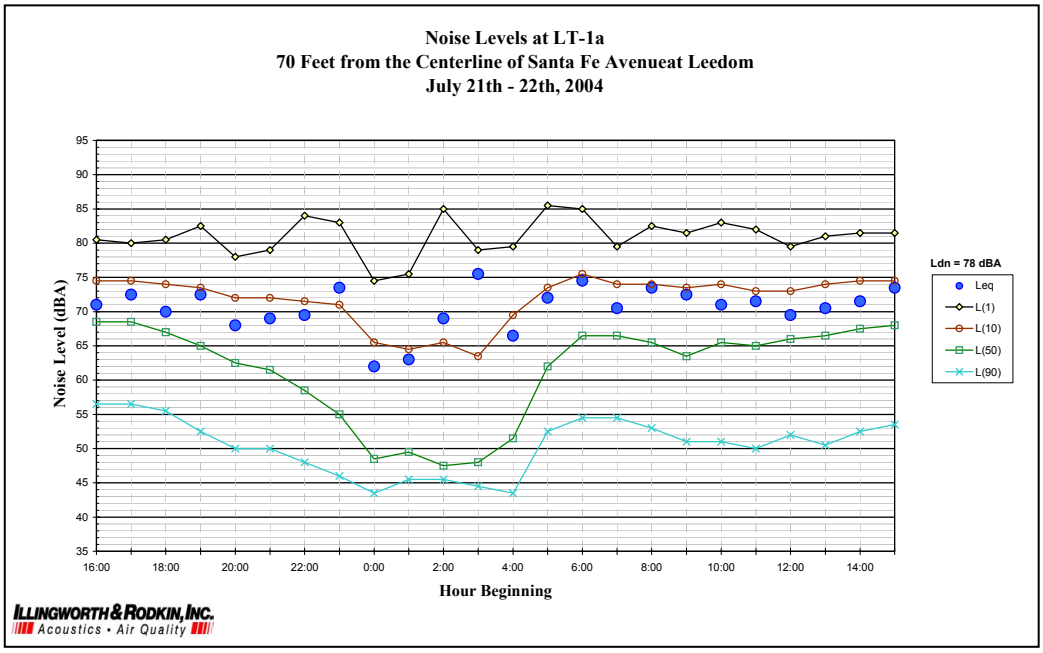
APPENDIX B

EXISTING NOISE LEVEL MEASUREMENTS

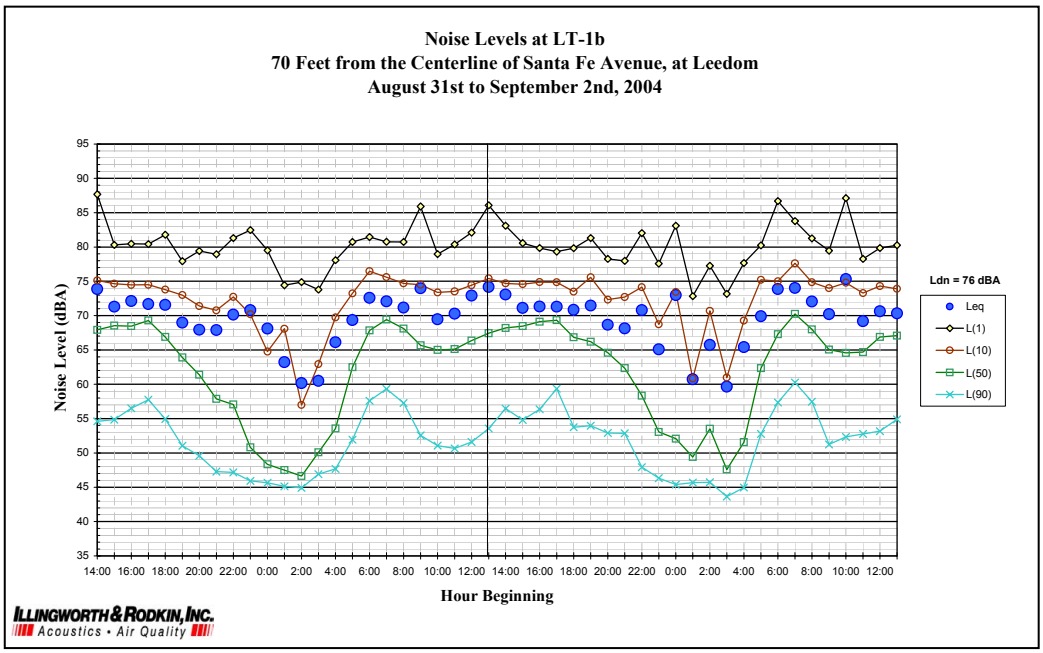
APPENDIX B

EXISTING NOISE LEVEL MEASUREMENTS

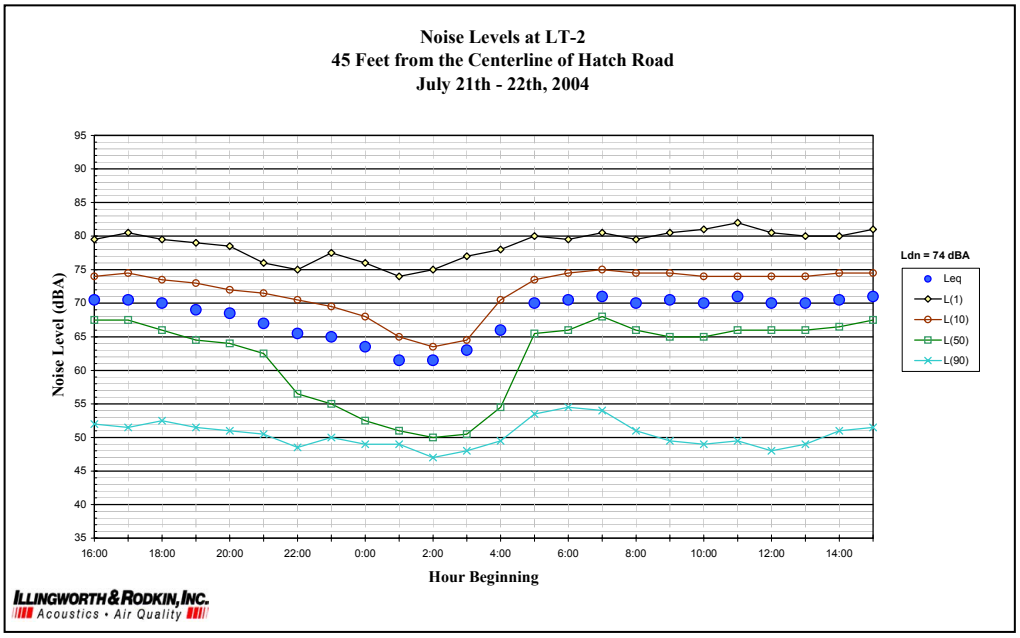
Daily Trend in Noise Levels at LT-1a



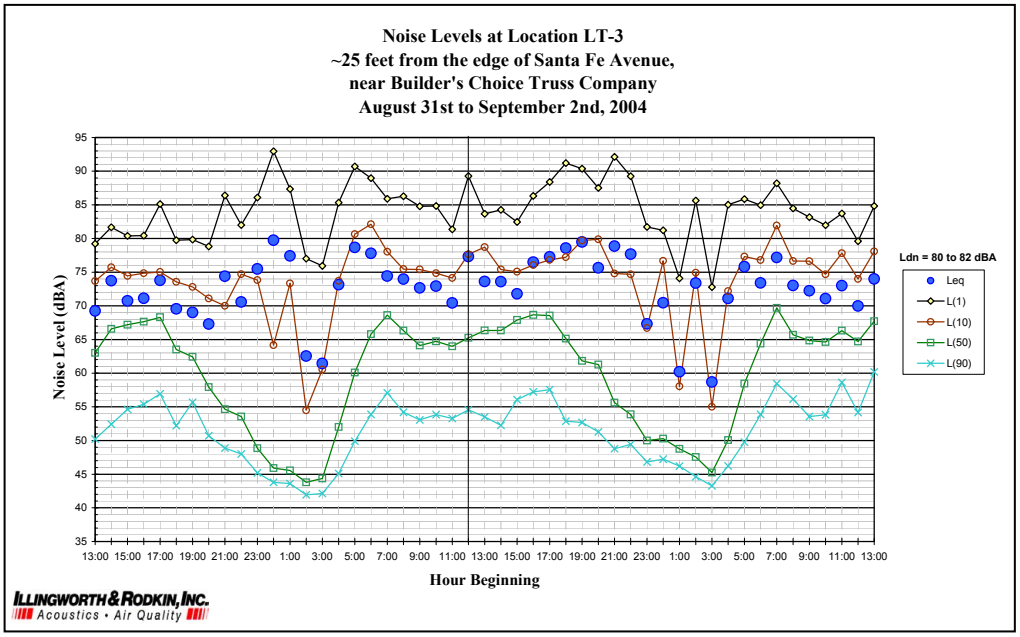
Daily Trend in Noise Levels at LT-1b



Daily Trend in Noise Levels at LT-2



Daily Trend in Noise Levels at LT-3



Daily Trend in Noise Levels at LT-4