DRAFT
ENVIRONMENTAL IMPACT REPORT

"SOUTH END" SPHERE OF INFLUENCE AMENDMENT PROJECT

GREENFIELD, CA

SCH# 2005121035

VOLUME I OF II

PMC

PACIFIC MUNICIPAL CONSULTANTS

APRIL 2006

DRAFT
ENVIRONMENTAL IMPACT REPORT

"SOUTH END" SPHERE OF INFLUENCE AMENDMENT PROJECT

SCH# 2005121035

Prepared for:

CITY OF GREENFIELD
Planning & Building Inspection Department
45 El Camino Real
Greenfield, CA 93927
Contact: Mark McClain (831) 674-5591

Prepared with Assistance From:

PACIFIC MUNICIPAL CONSULTANTS
585 Cannery Row Ste. 304
Monterey, CA 93940
(831) 644-9174

PMC
PACIFIC MUNICIPAL CONSULTANTS

APRIL 2006

S EXECUTIVE SUMMARY S-1

1.0 INTRODUCTION

1.1 Background and Overview 1-1
1.2 Type of Document 1-2
1.3 Intended Uses of this EIR 1-2
1.4 Environmental Review Process 1-3
1.5 Scope and Organization 1-5
1.6 Impact Terminology 1-9

2.0 PROJECT DESCRIPTION

2.1 Project Location 2-1
2.2 Current Ownership and Parcelization 2-7
2.3 Planning Requirements for Each Parcel 2-7
2.4 Project Relationship to the Greenfield City-Wide SOI Amendment 2-13
2.5 Project Land Use and Development Characteristics 2-17
2.6 Project Phasing 2-19
2.7 Project Objectives 2-20
2.8 Requested Actions, Entitlements and Required Approvals 2-21

3.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

3.1 Aesthetics and Visual Resources 3.1-1
3.2 Agricultural Resources 3.2-1
3.3 Air Quality 3.3-1
3.4 Biological Resources 3.4-1
3.5 Cultural Resources 3.5-1
3.6 Geology, Soils & Geologic Hazards 3.6-1
3.7 Hazards / Risk of Upset 3.7-1
3.8 Drainage and Surface Water Hydrology 3.8-1
3.9 Land Use 3.9-1
3.10 Noise 3.10-1
3.11 Traffic and Circulation 3.11-1
3.12 Public Services and Utilities 3.12-1

4.0 ALTERNATIVES TO THE PROJECT

4.1 General CEQA Requirements 4-1
4.2 Relationship to Project Objectives 4-2
4.3 Project Alternatives 4-3

4.4 Environmentally Superior Alternative 4-9

5.0 CUMULATIVE IMPACT SUMMARY

5.1 Analysis Requirement..... 5-1
5.2 Cumulative Impact Analysis and Assumptions 5-3

6.0 OTHER SECTIONS REQUIRED BY CEQA

6.1 Irreversible Environmental Changes..... 6-1
6.2 Growth Inducing Impacts 6-2
6.3 Significant and Unavoidable Environmental Effects 6-4
6.4 Effects Found Not to be Significant 6-9

7.0 REPORT PREPARERS AND REFERENCES

7.1 Preparers of the Environmental Impact Report 7-1
7.2 References / Documentation 7-2

TECHNICAL APPENDICES – VOLUME I

Appendix A – Notice of Preparation and Responses

TECHNICAL APPENDICES – VOLUME II – PUBLISHED UNDER SEPARATE COVER

Appendix B – Traffic Analysis

Higgins Associates. *Greenfield Sphere of Influence, Traffic Impact Analysis,* March 29, 2006.

Appendix C – Air Quality

AMBAG. Todd Muck. Consistency Request and Response. January 4, 2006

Ambient Air Quality and Noise Consulting. *Air Quality Assessment for the South End Annexation Project*, City of Greenfield, December 2005.

MBUAPCD Permit # 8729B and Permit # 4089A

Appendix D – Environmental Noise Analysis

Ambient Air Quality and Noise Consulting. *Environmental Noise Assessment: South End Annexation Project Draft EIR*. December 2005.

Appendix E - Cultural Resources Study

Pacific Municipal Consultants, Cultural Resources Specialist. *Cultural and Paleontological Resources Section for the South End EIR*. January 2006.

Appendix F – Geotechnical Investigation

The Twining Laboratories, Inc. *Geotechnical Feasibility Investigation Report*. October 21, 2005

Appendix G – Biological Resources Report

Pacific Municipal Consultants, Biologist. Greenfield South End EIR Biology Section. January 2006.

Appendix H – Phase I Environmental Site Assessment

The Twining Laboratories, Inc. *Phase I Environmental Site Assessment* (APN 221-011-017). October 3, 2005

The Twining Laboratories, Inc. *Phase I Environmental Site Assessment* (APN 221-011-068). October 3, 2005

Appendix I – Engineering Feasibility Study

Creegan + D'Angelo Consulting Civil and Structural Engineers. Draft Engineering Feasibility Study. December 9, 2005.

List of Figures

S-1 Proposed Project by Parcel Ownership S-2

2-1 Regional Location 2-3

2-2 Project Vicinity 2-5

2-3 Subject Parcels 2-9

2-4 Proposed Land Uses 2-11

2-5 Relationship to City Planning Boundaries 2-15

3.1-1a Site Photos 3.1-5

3.1-1b Site Photos 3.1-7

3.1-2 Site Photos – Surrounding Uses 3.1-9

3.2-1 Soil Types 3.2-9

3.4-1 Recorded Occurrences of Special-Status Species w/i 1 Mile of Project Site. 3.4-5

3.8-1 100 Year Flood Plain 3.8-3

3.9-1 Adopted Greenfield General Plan 3.9-3

3.9-2 General Plan and SOI Boundaries as Proposed for Amendment 3.9-5

3.9-3 Surrounding Land Uses Aerial 3.9-9

3.11-1 Roadway Network 3.11-3

3.11-2 Land Uses and Acreage Assumptions 3.11-15

3.11-3 Existing Conditions Segment Volumes and Levels of Service 3.11-19

3.11-4 Interim Conditions Segment Volumes and Levels of Service 3.11-23

3.11-5 GPBO Conditions Segment Volumes and Levesl of Service 3.11-27

3.11-6 Mitigated GPBO Conditions Segment Volumes and Levels of Service..... 3.11-35

List of Tables

S-1 Executive Summary Table S-5

1-1 Project Overview 1-1

2-1 Current and Future Uses by Parcel Ownership..... 2-7

2-2 Land Use Summary and Development Potential 2-17

3.2-1 Land Capability Classification 3.2-2

3.2-2 Storie Index Rating System 3.2-3

3.2-3 Leading Commodities for Gross Value of Agricultural Products In Monterey County, 2003 ..... 3.2-6

3.2-4 Acres of Important Farmlands – Monterey County (2000-2002) 3.2-7

3.2-5 Cortese-Knox Prime Agricultural Land Analysis..... 3.2-16

3.2-6 LAFCO Policy Analysis 3.2-17

3.2-7 Williamson Act Exchange Approval Authority..... 3.2-25

3.3-1 Summary of Ambient Air Quality Standards 3.3-4

3.3-2 Summary of Ambient Air Quality Data..... 3.3-6

3.3-3 NCCAB Attainment Status Designations..... 3.3-8

3.3-4 Operational Emissions at Buildout without Mitigation..... 3.3-15

3.4-1 Species Potentially Occurring in the Project Area Potentially Needing Study .. 3.4-3

3.4-2 City of Greenfield General Plan Policies Regarding Biological Resources 3.4-15

3.6-1 Modified Mercalli Intensity Scale For Earthquakes 3.6-3

3.6-2 California Building Code Fault Classifications 3.6-3

3.9-1 City of Greenfield Land Use Policy 3.9-11

3.9-2 LAFCO Policy Analysis 3.9-13

3.10-1 Noise Standards for News Uses Affected by Transportation Noise 3.10-5

3.10-2 Noise Standards for New Projects Affected by or Including Non-Transportation Noise 3.10-6

3.10-3 City of Greenfield Land Use Noise Compatibility Criteria 3.10-7

3.10-4 Significance of Changes in Cumulative Noise Exposure 3.10-8

3.10-5 Typical Construction Equipment Noise Levels 3.10-10

3.10-6 Predicted Traffic Noise Levels Intermediate Conditions..... 3.10-15

3.10-7 Predicted Traffic Noise Levels General Plan Buildout Conditions..... 3.10-15

3.10-8 Predicted Traffic Noise Contour Distances Buildout with Project Conditions. 3.10-17

3.11-1 Level of Service Description..... 3.11-6

3.11-2 Level of Service Criteria 3.11-7

3.11-3 Intersections Analyzed Under Existing Conditions 3.11-7

3.11-4 Intersection Level of Service Summary 3.11-9

3.11-5 Highway 101 Levels of Service 3.11-25

3.11-6 Intersection Mitigation Requirements, All Analysis Scenarios..... 3.11-32

3.11-7 GPBO Plus Project Traffic Conditions Highway 101 Traffic Volumes..... 3.11-38

3.12-1 Existing Water Supply 3.12-2

3.12-2 Existing Water Lines 3.12-3

3.12-3 Existing Wells/ Pump Stations 3.12-4

3.12-4 Greenfield Union Elementary School District Enrollment 3.12-9

3.12-5 Greenfield High School Enrollment 3.12-10

3.12-6 Wastewater Generation Rates 3.12-20

4.1 Comparison of Project Alternatives to the Proposed Project 4-10

This page intentionally left blank

S - Executive Summary

This section of the Environmental Impact Report (EIR) provides a summary overview of the project environmental analysis, impacts and mitigation measures. For additional detail regarding specific issues, please consult the appropriate Subsection of Section 3.0, Environmental Setting, Impacts and Mitigation Measures.

S.1 PURPOSE AND SCOPE OF THE EIR

The City of Greenfield (City) is the Lead Agency in the preparation of this EIR to provide the public, responsible and trustee agencies, with information about the potential environmental effects of the proposed South End SOI (project). As described in CEQA Guidelines Section 15121(a), an EIR is a public information document that assesses potential environmental effects of the proposed project and identifies mitigation measures and alternatives to the proposed project that could reduce or avoid adverse environmental impacts (CEQA Guidelines 21002.1(a)). Public agencies are charged with the duty to consider and minimize environmental impacts of proposed development where feasible, and have an obligation to balance a variety of public objectives, including environmental, economic, and social factors.

Based on the results of public input generated during the Notice of Preparation response period for the project, Section 3.0 of the EIR focuses upon aesthetics and visual resources, agricultural resources, air quality, biological resources, cultural and paleontological resources, geologic resources, health hazards, drainage, land use, noise, traffic and circulation, and public services and utilities.

S.2 PROJECT CHARACTERISTICS

The South End SOI Amendment project site is located immediately south of the City of Greenfield, situated in the southern Salinas Valley in central Monterey County. U.S. Highway 101 is the main regional highway in this area, running north and south through the Salinas Valley. On the east side of U.S. Highway 101 the site is bounded by agricultural uses to the east, Espinoza Road to the south, and urban uses to the north. On the west side of the U.S. Highway 101 the project site is bounded by Greenfield High School, Vista Verde Middle School to the north and agricultural uses to the south and west. Figure S.1 on the following page shows the location of the proposed project by parcel ownership immediately south of the City of Greenfield.

The South End SOI project involves a series of complex land use actions and boundary changes that ultimately relate to the City of Greenfield's General Plan and proposed Sphere of Influence boundaries. The project as described within this EIR represents the "whole of the action", made up of several components. However, because the four parcels comprising the project involve slightly different land use actions specific to each parcel, the disposition of each is described in more detail below.

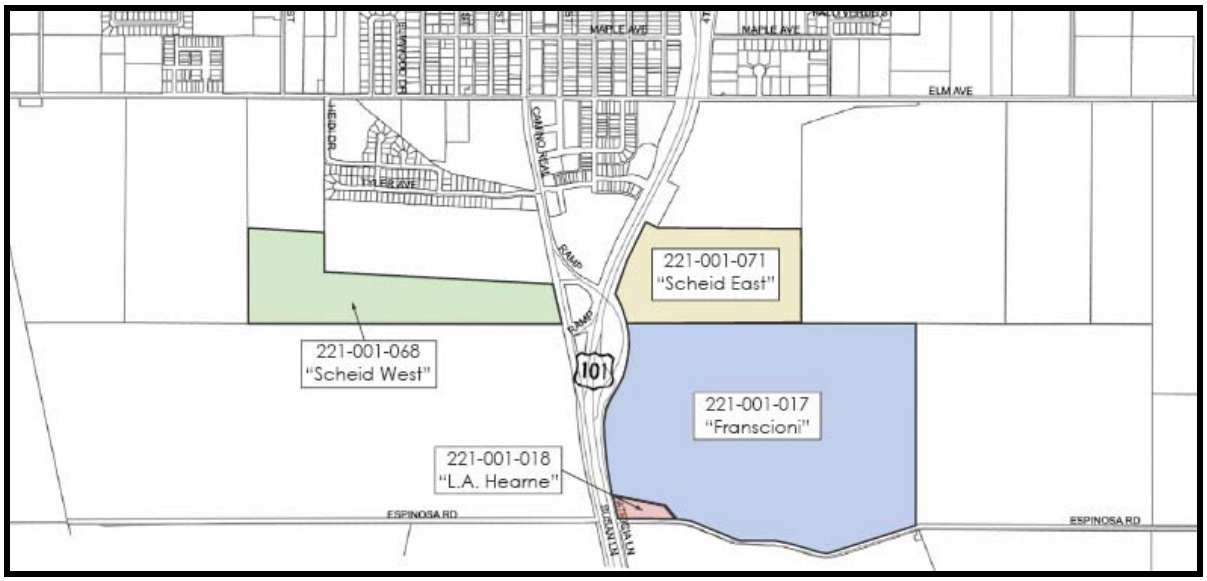


Figure S-1, Proposed Project by Parcel Ownership

APN 221-011-017 – "Franscioni Parcel". This 171-acre parcel is not currently part of the City's General Plan area. As with all four parcels, it is also outside the existing City SOI. As such, this parcel will require a General Plan Amendment to bring the area into the General Plan and proposed SOI boundaries. The underlying land uses would be changed from Agriculture (Monterey County) to Highway Commercial and Heavy Industrial. The eastern portion of this parcel also contains an agriculture easement of approximately 50 acres. This agricultural easement is the result of a Williamson Act exchange agreement that is being prepared as part of this project. Under the exchange agreement (described in detail in Section 3.2), this 50-acre area would remain in agriculture. As such, 121 acres are considered "developable" for planning and descriptive purposes. As the Franscioni parcel is proposing both Highway Commercial and Heavy Industrial land uses, the City is also recommending subdivision of the parcel so that the various land use boundaries clearly match legal parcel lines.

APN 221-001-071 – "Scheid East" Parcel. This 46-acre parcel north of Franscioni is currently within the City's General Plan boundaries, and is designated as Heavy Industrial. Because approximately half of the parcel is proposed for Highway Commercial, this parcel will require a General Plan land use change to allow the Highway Commercial use, as well as inclusion in the City's proposed SOI. Like the Franscioni parcel, the City is recommending subdivision of the parcel so that the two land use boundaries match legal parcel lines.

APN 221-001-018 – "L.A. Hearne" Parcel. This three-acre parcel at Highway 101 and Espinosa Road is currently used for agricultural equipment storage. This parcel has been included in the project boundaries primarily to create a more uniform SOI boundary

and to allow better planning opportunities at the intersection of primary roadways. This parcel requires a General Plan land use change from Agriculture (County) to Highway Commercial (City), as well as inclusion within the City's proposed SOI boundary.

APN 221-001-068 – "Scheid West" Parcel. This 47-acre "L" shaped parcel west of the highway requires a General Plan amendment to bring the property from Agriculture (County) to Low Density Residential (City).

All parcels are part of a single General Plan Amendment to accommodate the land uses described above. All parcels will also be part of the City of Greenfield's larger city-wide Sphere of Influence amendment, described below. The applicants have requested annexation of the four parcels into the City of Greenfield, although annexation may be part of an application to LAFCO apart from and subsequent to the application to amend the SOI.

S.3 PROJECT ALTERNATIVES CONSIDERED

Three alternatives to the proposed project were considered including: Alternative 1 – "No Project" (No Development); Alternative 2 – "No Residential Development" alternative; and Alternative 3 – "Original SOI" alternative. Based on the alternatives analysis contained within Section 4.0, the EIR concludes that Alternative 1 is the environmentally superior alternative because, as determined from the above analysis, most impacts would be reduced relative to the proposed project. From the remaining options, Alternative 2, the "No Residential Development" alternative would be the environmentally superior alternative and would result in greater reductions in number and degree of environmental impacts as compared to the proposed project and other alternatives. This is due primarily to the fact that residential uses result in the introduction of more "sensitive receptors" to impacts. In addition, Alternative 2 reduces the total acreage to be developed and thus has an overall reduction in the degree of impact in most impact categories.

S.4 SUMMARY OF ENVIRONMENTAL IMPACTS

Table S-1 presents a summary of project impacts and proposed mitigation measures that would reduce, minimize, or avoid potential impacts. In the table the level of significance of each environmental impact is indicated after the application of the recommended mitigation measure(s).

For detailed discussions of all project impacts and mitigation measures, the reader is referred to topical environmental analysis in Section 3.0 of this EIR.

This Page Intentionally Left Blank

TABLE S-2
EXECUTIVE SUMMARY OF PROJECT IMPACTS

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Aesthetics and Visual Resources			
Impact 3.1-1 The project would alter the aesthetic character of the project site and its immediate surroundings from rural agricultural use to urban residential, industrial and highway commercial uses	Less than Significant	Please also see **Impact 3.1-4** regarding visual appearance, as well as **Impact 3.1-5 and 3.1-6**, Cumulative Visual Impacts.	Less than Significant
Impact 3.1-2 Land use changes and ultimate development within the project area would result in changes to the physical landscape and alter expansive views to and from surrounding properties and Highway 101.	Less than Significant	Please also see **Impact 3.1-4** regarding visual appearance.	Less than Significant
Impact 3.1-3 Buildout of the project area would introduce new sources of lighting within the project area that could adversely affect adjacent uses.	Potentially Significant	**MM 3.1-3** Prior to approval of final maps for each phase of development, the project applicant shall prepare and submit to the City detailed exterior lighting plans that indicates the location and type of lighting that will be used. Exterior lighting shall specify type and maker, and demonstrate a non-intrusive quality (incorporate baffles and lens cut-offs to direct lighting downward lighting) while still providing an adequate amount of light for safety and/or security. Each applicant shall not position night lighting to illuminate areas beyond the site boundaries, but shall place lights or install shielded lights to illuminate only the area of concern.	Less than Significant
Impact 3.1-4 Development Highway Commercial and Residential near the southern gateway along Highway 101 could significantly impact the overall visual quality and appearance of the City.	Potentially Significant	**MM 3.1-4a** Landscape plans shall be submitted for all specific development proposals within the project site and shall indicate landscape details such as planting plans, plant palettes, and landscape features. Landscape plans shall be prepared by a licensed landscape architect, and shall include design themes and concepts consistent with the goals of the Gateway Overlay	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		designation. The landscape criteria shall be reviewed and approved by the City and incorporated into the final subdivision map(s) and future site plans for the project. **MM 3.1-4b** Utility lines shall be placed underground as required by City policy to minimize the visual impacts of man-made elements at the project site. The City Engineer shall review and approve the applicant's utility improvement plans. **MM 3.1-4c** As a component of individual applications for development projects within the annexation area, applicants will submit detailed project design information to allow the City to make a determination of consistency with the Gateway Overlay designation. Such information shall contain detailed site plans, information regarding the project's proposed visual amenities, setbacks, signage and monumentation, additional landscape detail, proposed architectural schemes, architectural elevations, and visual simulations from Highway 101.	
Impact 3.1-5 Project buildout will incrementally add to ongoing changes to Greenfield's aesthetic and visual character.	Significant and Unavoidable	The South End SOI EIR, as an extension of the City's planning area and sphere of influence, will contribute incrementally to the changes resulting from the General Plan and will result in an unavoidable change to the existing aesthetics and agricultural character of the City.	Significant and Unavoidable
Impact 3.1-6 Nighttime ambient light and glare will be increased by new residential, industrial and highway commercial development in the area of the project.	Less than Significant	Implementation of mitigation measure **MM 3.1-3** would reduce the effects of nighttime ambient light and glare on a project specific level. At a cumulative level, skyglow city-wide may be increasing. However, there is no evidence that this increase is causing a particular impact or triggering a specific significance threshold.	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Agricultural Resources			
Impact 3.2-1 The South End project will result in the eventual conversion of approximately 217 acres of Prime Farmland to urban uses.	Significant and Unavoidable	Although the City has incorporated a series of planning measures into the General Plan itself that recognize agriculture as an important resource, the City acknowledges that the project area itself would result in the physical conversion of prime farmland, and that such conversion would be an unavoidable environmental consequence.	Significant and Unavoidable
Impact 3.2-2 The proposed project would place urban land uses adjacent to agricultural uses, which may impair agricultural production and result in land use compatibility conflicts.	Potentially Significant	**MM 3.2-2a** The project applicant shall demonstrate adequate land use separation on all site plans and applications for subdivision. Residential subdivisions shall demonstrate a 100-foot minimum land use buffer between the edge of all active agricultural fields or vineyards and the nearest residential property lines. Non-residential setbacks shall demonstrate a 100-foot minimum land use buffer between the edge of active fields or vineyards and the nearest building surface. Distances comprising the buffer may include roadway rights of way, easements, landscaping, and other uninhabited uses, and may be reduced if it can be demonstrated that a narrower distance will provide effective separation. Ultimate design and consideration of setbacks will be subject to review and approval by the City of Greenfield **MM 3.2-2b** Consistent with notification required by Monterey County as a component of the Right-to-Farm Ordinance, the applicant shall record a Right-to-Farm notification statement to run with the title as disclosure and notice in deeds at the time of transfer or sale of all properties within 2,000 feet of agricultural land, agricultural operations or agricultural processing facilities or operations. The statement shall inform any future property owners of the continuation of agricultural activities in the area and shall disclose the potential effects of agricultural activities on adjacent land uses to future project residents.	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		Please also see **MM 3.9-3a-c** from **impact 3.9-3.**	
Impact 3.2-3 The development of the proposed project site would be in conflict with an existing Williamson Act contract for the southeastern portion of the project site.	Potentially Significant	Prior to the City's submittal to LAFCO of an application to annex the subject property (APN 221-011-017), and prior to approval of any development rights or permits on the property issued by the City, the project applicant shall demonstrate that the Williamson Act Exchange has been successfully completed. The applicant shall comply with the requirements set forth in the Department of Conservation's Williamson Act Exchange Program agreement and provide adequate evidence, as determined by the City Planning Manager, that the requirements of the agreement have been met.	Less than Significant
Impact 3.2-4 The proposed project would convert approximately 214 acres of agricultural land to urban uses. This loss would contribute to the cumulative loss of farmland in the region.	Significant and Unavoidable	The project applicant(s) will contribute and participate toward any agriculture mitigation fee or similar mitigation program as adopted and recognized by the City of Greenfield in place at the time that building permits are pulled.	Significant and Unavoidable
Air Quality			
Impact 3.3-1 Construction activity at the proposed project site would generate temporary emissions of criteria pollutants that could exceed MBUAPCD significance thresholds.	Potentially Significant	**MM 3.3-1** Best-available control measures (BACM) shall be required during site preparation and construction of proposed land uses. When tentative subdivision maps are submitted and prior to approval of building permits, a construction emissions reduction plan (CERP) shall be prepared, for review by the MBUAPCD, to reduce construction-generated fugitive and mobile-source emissions. The MBUAPCD shall be consulted to determine BACM to be implemented to minimize impacts to nearby sensitive receptors. Measures to be included in the CERP prepared for this project, as currently recommended by the MBUAPCD, include but are not limited to the following: **Fugitive Dust** a. Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		and wind exposure; b. Prohibit all grading activities during periods of high wind (over 15 mph); c. Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days); d. Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseed areas; e. Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard. f. Replant vegetation in disturbed areas as quickly as possible. g. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles, such as dirt, sand, etc. h. Sweep daily, with water sweepers, all paved access roads, parking areas and staging areas at construction sites. i. Sweep streets daily, with water sweepers, if visible soil materials are carried onto adjacent public streets. j. Limit traffic speeds on unpaved roads to 15 mph. k. Install sandbags or other erosion control measures to prevent silt runoff to public roadways. l. Limit areas of active disturbance to no more than 2.2 acres per day for initial site preparation activities that involve extensive earth-moving activities (grubbing, excavation, rough grading), or 8.1 acres per day for activities that involve minimal earth moving (e.g., finish grading). **Mobile / Stationary Source Emissions** m. Diesel equipment used onsite should be year 2003, or newer, equipped with emission control technology (e.g., diesel-oxidation catalyst), or use alternative fuels (e.g., biodiesel) that sufficiently reduces diesel-exhaust emissions at nearby receptors to within acceptable levels, as defined by the MBUAPCD. For equipment retrofitted to operate with	

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		diesel exhaust emissions control technology, the CERP shall include verification of installation or presence of these devices for review by the MBUAPCD. n. To the extent feasible, construction equipment shall not be left idling o. Limit the pieces of equipment used at any given time p. Minimize the use of diesel-powered equipment (i.e., wheeled tractor, wheeled dozer) q. Limit hours of operation for heavy-duty equipment r. Undertake project during non-ozone season s. Stationary equipment shall be placed at the furthest feasible distance from nearby residences t. Post a publicly visible sign which specifies the telephone number and person to contact regarding emissions-related complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Monterey Bay Unified Air Pollution Control District shall be visible to ensure compliance with Rule 402 (Nuisance).	
Impact 3.3-2 Construction activities would involve the use of diesel-powered equipment that may result in localized concentrations of mobile source TACs at nearby receptors. Short-term exposure to localized concentrations of TACs (primarily acrolien) could exceed applicable air quality thresholds.	Potentially Significant	Implementation of **MM 3.3-1** would substantially reduce diesel-exhaust emissions from onsite construction equipment. For instance, use of diesel oxidation catalysts, particulate filters, and alternative fuels such as biodiesel, can reduce diesel-exhaust constituent emissions by approximately 90 percent, or more (MBUAPCD 2004). Implementation of **MM 3.3-1** would require the project applicant to prepare a Construction Emissions Reduction Plan (CERP) that would sufficiently reduce short-term construction-generated emissions to within acceptable levels. The CERP shall be reviewed by the MBUAPCD, prior to issuance of a building permit.	Less than Significant
Impact 3.3-3 Operational emissions associated with buildout of the proposed Residential, Commercial and Industrial uses	Significant and Unavoidable	Implementation of **MM 3.3-3** and incorporation of specific measures into project design would reduce long-term operational emissions, but not necessarily to less-than-significant levels.	Significant and Unavoidable

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
would result in emissions of criteria air pollutants. Project-generated emissions would exceed MBUAPCD's significance thresholds.		Measures that promote use of alternative means of transportation or carpooling would typically reduce mobile-source emissions by less than approximately two percent (MBUAPCD 2004). Project-generated emissions of ROG, NO_X, and PM_{10} would still be anticipated to exceed MBUAPCD's recommended significant thresholds. No additional mitigation measures were identified that would reduce emissions to below MBUAPCD's significance thresholds. **MM 3.3-3** The project applicant shall implement MBUAPCD-recommended mitigation measures to the extent practical. Prior to approval of building permits, the MBUAPCD shall be consulted to determine applicable measures to be implemented to reduce long-term operational emissions associated with proposed land uses. The City of Greenfield will review proposed tentative maps and improvement plans to identify emission reduction measures incorporated into the project. City Staff may recommend additional measures as practical and feasible. Measures currently recommended by the MBUAPCD include the following:Commercial and Industrial Uses: <u>Highway Commercial and Industrial Uses</u>: a. Provide preferential carpool/vanpool parking spaces b. Implement a parking surcharge for single occupant vehicles c. Provide facilities that encourage the use of alternative transportation sources (e.g., public transportation, bicycle and pedestrian access), such as transit bus pullouts shelters, and onsite showers, lockers and bicycle storage/parking. d. Provide onsite child care centers e. Develop park-and-ride lots f. Employ a transportation/rideshare coordinator g. Implement a rideshare program	

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		h. Provide incentives to employees to rideshare or to take public transportation i. Implement compressed work schedules j. Implement a telecommuting program Residential Uses: k. Use EPA-certified or gas-fired fireplaces l. Provide pedestrian sidewalks and bicycle paths that link to adjacent land uses and external networks m. Incorporate energy-efficient appliances into residential uses All Uses: n. Orient buildings to minimize heating and cooling needs o. Provide shade trees to reduce cooling needs p. Include energy-efficient lighting systems q. Include solar water heaters or centralized water heating systems r. Increase insulation beyond Titlte 24 requirements to minimize heating and cooling needs.	
Impact 3.3-4 Implementation of the proposed project would result in the generation of CO at nearby intersections from increased vehicular traffic on the local transportation network. However, the proposed project would not contribute to localized CO concentrations that are projected to exceed AAQSs at nearby receptors.	Less than Significant	According to the Traffic Impact Study prepared for the proposed project, implementation of the proposed project, for both interim and future cumulative General Plan buildout conditions would not result in unacceptable levels of service at existing nearby signalized intersections. Likewise, stop-controlled intersections proposed for signalization with project implementation are not projected to operate at unacceptable levels of service.	Less than Significant
Impact 3.3-5 The proposed project would not result in the development of new sensitive land uses (residential) in the vicinity of existing odor sources. Future development of proposed commercial and industrial land uses would be anticipated to result in the exposure of a	Less than Significant	Compliance with MBUAPCD permit and nuisance rules related to odors would help to control emissions of odorous emissions from proposed stationary sources. For instance, MBUAPCD Rule 402 (Nuisances) prohibits the discharge of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons. Compliance with such	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
substantial number of individuals to increases in odorous emissions.		existing regulatory requirements would help to ensure that exposure of receptors to offensive odors remains at a less-than-significant level. In addition, existing surrounding land uses consist primarily of agricultural uses and rural residential dwellings. As a result, proposed commercial and industrial land uses would not be anticipated to result in increased exposure of a substantial number of people to odors.	
Impact 3.3-6 The proposed project would place residential units within the immediate vicinity of the NH_3 Service Company, a regulated facility. The proposed project could also include the use of diesel-fueled vehicles that may result in the generation of diesel-exhaust PM emissions, which may result in localized increases in diesel-exhaust PM.	Less than Significant	The absence of existing acute sources of TAC near sensitive receptors and the required adherence to MBUAPCD permitting requirements for all future development proposals within the annexation area will render impacts to a less than significant level.	Less than Significant
Impact 3.3-7 New development, combined with other reasonably foreseeable projects in the City, would contribute to increased air quality emissions in the air basin.	Significant and Unavoidable	AMBAG has determined that the proposed project is consistent with the AQMP. However, as identified in Impact 3.3-3 operational/regional emissions from buildout of the proposed project would result in a significant and unavoidable impact. In addition, the City of Greenfield General Plan EIR identified that regional emissions for the Planning Area were significant and unavoidable. The project site is currently located outside of the City of Greenfield limits; addition of the proposed project site would cause the regional emissions for the City to remain significant and unavoidable.	Significant and Unavoidable

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Biological Resources			
Impact 3.4-1 Implementation of the proposed project would result in temporary and direct disturbance to nesting raptors and migratory birds (including bank swallow).	Potentially Significant	MM 3.4-1 If proposed grading, site preparation, or construction activities are planned to occur during the nesting seasons for local avian species (typically March 1st through August 31st), the project applicant shall, prior to issuance of grading or building permits, retain a qualified biologist approved by the City of Greenfield to conduct a focused survey for active nests of raptors and migratory birds within and no less than 100-feet outside project boundaries, where possible, of the construction area, no more than 30 days prior to ground disturbance. If an active nest is located during preconstruction surveys, USFWS and/or DFG (as appropriate) shall be notified regarding the status of the nest. Furthermore, construction activities shall be restricted, as necessary, to avoid disturbance of the nest until it is abandoned or the biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 100-feet around the nest) or alteration of the construction schedule. No action is necessary if construction occurs during the nonbreeding season (generally September 1st through February 28th).	Less than Significant
Impact 3.4-2 Development of the proposed project would result in temporary disturbance and permanent alteration of site conditions that could support transient San Joaquin kit fox.	Potentially Significant	During construction activities the project applicant shall use 'best management practices' to ensure no incidental take of San Joaquin kit fox occurs during construction or from project-related activity onsite. The recommended measures (as outlined in the USFWS Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance [June 1999]) include: a. Restrict project-related vehicle traffic to established roads or other designated areas onsite. Vehicles should observe a 20-mile per hour speed limit in all project areas (except on	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		paved pre-existing roads with an established speed limit). Off-road traffic outside of the designated project areas should be prohibited; b. To the extent possible, night-time construction should be minimized; c. All excavated, steep-walled holes or trenches more than two feet deep shall be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, each shall be thoroughly inspected for trapped animals that should be allowed to escape before proceeding; d. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored open onsite for one or more nights shall be thoroughly inspected for animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way; e. All food-related trash items, such as wrappers, cans, bottles, and food scraps, shall be disposed of in closed containers and removed at least once a week from the project site; f. No firearms shall be allowed on the project site;	
		g. No pets (i.e., dogs, cats, etc.) shall be permitted onsite; h. Use of rodenticides and herbicides in project areas shall be prohibited. If rodent control must be conducted, zinc phosphide is preferred because of a proven (and recognized by the USFWS) lower risk to kit fox. Furthermore, the applicant shall retain a qualified biologist to present the importance of following best management practices to reduce impacts to possible fox (as well as other sensitive species) during project implementation. A fact sheet conveying this information shall be prepared by the biologist and distributed to any personnel who may enter the project site. Should a kit fox	

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		be found onsite, the biologist shall be notified immediately in order to outline additional avoidance measures that should be implemented as well as consult with regulatory agencies.	
Impact 3.4-3 Development of the project location, in addition to anticipated cumulative development in the project vicinity, would result in disturbance to special status species and sensitive habitats throughout the region.	Potentially Significant	Implementation of measures **MM 3.4-1** and **MM 3.4-2** would reduce the project's overall contribution to cumulative biological resource impacts to a less than significant level. As mitigated, and based on the limited biological resources and habitat values at the site, the project's contribution is not cumulatively considerable. The project addresses site-specific biological resources consistent with the implementation measures set forth in the General Plan.	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Cultural Resources			
Impact 3.5-1 Approval of the South End SOI Amendment and any potential projects that may result from adopting the amendment could result in impacts to undiscovered prehistoric and historic resources and the inadvertent discovery of human remains.	Potentially Significant	**MM 3.5-1a** Should any previously undisturbed cultural, historic or archaeological resources be uncovered in the course of site preparation, clearing or grading activities, all operations within 150 feet of the find shall be halted until such time as a qualified professional archaeologist can be consulted to evaluate the find and recommend appropriate action. If the find is determined to be significant, appropriate mitigation measures shall be formulated and implemented. **MM 3.5-1b** In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of Monterey County has determined whether the remains are subject to the coroner's authority. This is in accordance with Section 7050.5 of the California Health and Safety Code. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of identification. Pursuant to Section 5097.98 of the Public Resource Code, the Native American Heritage Commission will identify a "Native American Most Likely Descendent" to inspect the site and provide recommendations for the proper treatment of the remains and any associated grave goods.	Less than Significant
Impact 3.5-2 Adoption of the Sphere of Influence Amendment and any potential projects that may result from adopting the amendment could result in impacts to undiscovered paleontological resources.	Potentially Significant	**MM 3.5-2** As a condition of project approval if any paleontological resources (fossils) are discovered during ground disturbing construction activities, all work in the immediate vicinity must stop and the City of Greenfield shall be immediately notified. A qualified paleontologist shall be retained to evaluate the finds and recommend appropriate	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		mitigation measures for the inadvertently discovered paleontological resources.	
Impact 3.5-3 Approval of the SOI Amendment and any potential projects that may result from subsequent development, along with any foreseeable development in vicinity of the SOI Area, will be site-specific in nature.	Less than Significant	Adoption of the SOI Amendment and any potential projects that may result from adopting the amendment in combination with cumulative development pursuant to General Plan buildout, would likely increase the potential to disturb the local inventory and context of both known and undiscovered cultural resources. Mitigation measures **MM 3.5-1a and b** and **MM 3.5-2** however, would mitigate potential site specific impacts to cultural resources by addressing resources on a case by case basis and applying appropriate mitigation in accordance with state and local laws. With mitigation, and based on the absence of significant features on the site, the sum of cumulative effects will not be more significant than the individual impacts.	Less than Significant
Geology, Geological Hazards			
Impact 3.6-1 Future development in the project annexation could expose people and property improvements to ground shaking.	Potentially Significant	**MM 3.6-1a** All future development within the APN 221-011-017 shall comply with the recommendations identified in the Geotechnical Report prepared by Twining Laboratories, October 2005, or as required by any subsequent geotechnical report. These recommendations include, but are limited to, the following: 1. All buildings footings should have a minimum depth of 18 inches (24 for a two story building) below rough pad grade or adjacent exterior grade, which ever is lower. 2. Additional borings should be performed and data regarding the proposed structural loads should be provided in buildings at the proposed site. Additional design level geotechnical site investigations are necessary to prepare design level recommendations and to meet individual tenant requirements for geotechnical investigations.	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		3. All final engineering and improvement plans shall be prepared in accordance with City of Greenfield standards and shall be submitted to the City Engineer and Public Works Director for approval. **MM 3.6-1b** As part of any subsequent application for development of APNs 221-011-071, 018 and 221-011-068, the Applicant shall submit a Geotechnical Report prepared by a qualified professional for review and approval by the City of Greenfield. The geotechnical report shall include comprehensive geologic, seismic, and/or soils and engineering evaluations. Recommendations of the report and specific construction performance criteria shall be incorporated into the final building plans, subject to review and approval by the Greenfield Building and Planning Department.	
Impact 3.6-2 The seismic hazards of the region give rise to the risk of liquefaction, ground settlement and ground failure.	Less than Significant	Adherence to mitigation measures **MM 3.6-1a** and **MM 3.6-1b,** will ensure that the impact remains at a less than significant level.	Less than Significant
Impact 3.6-3 Land clearing, grading, excavation, cut and fill operations and any other site preparation activities and installation of impervious surfaces such as pavement areas will increase the risk of soil erosion and loss of topsoil.	Potentially Significant	Erosion resulting from the project can be successfully controlled and prevented using a variety of methods including implementation of mitigation measure **MM 3.8-1a-c**, requiring that drainage control plans and retention basin design be submitted for all future development proposals for review and approval by the Public Works Director and City Engineer. Erosion is further controlled through compliance with all existing codes and laws, implementation of all recommendations of the Geotechnical Feasibility Report and implementation of best management practices by future construction contractors on the site.	Less than Significant
Impact 3.6-4 There is a low, but not necessarily insignificant, potential for soil expansion at the proposed project site, which	Potentially Significant	Mitigation Measure **MM 3.6-1a** would require that the proposed project be designed to comply with the most recent California Building Code and would incorporate the recommendations	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
could result in differential subgrade movements and cracking of foundations.		from the geotechnical investigation into building design. Along with **MM 3.6-1a** the implementation of **MM 3.6-1b** and **MM3.1-1d** requiring a Geotechnical Feasibility Report (and performance criteria) for APN 221-011-068, 018 and 071 would reduce the effects of expansive soils at the project site to a less than significant level.	
Impact 3.6-5 The project soils are considered to be highly corrosive having the potential for soil-induced chemical reactions, and damaging construction and building materials.	Potentially Significant	**MM 3.6-5** The project applicant shall obtain laboratory testing to determine what corrosion-resistant materials are needed for project construction. The applicant shall submit evidence of compliance to the City of Greenfield prior to issuance of building permits.	Less than Significant
Hazards / Risk of Upset			
Impact 3.7-1 Construction-related hazards resulting from existing site conditions are expected during project construction.	Less than Significant	Construction firms and workers are protected by worker safety regulations of the California Occupational Safety and Health Administration and best management practices would be implemented to ensure safety during all phases of project implementation. Based on the findings of the ESAs conducted for the project, there were no clearly identifiable or acute site hazards that would pose a specific risk to construction workers.	Less than Significant
Impact 3.7-2 Annexation and subsequent development of the project site on lands previously utilized for agricultural production could potentially expose people or property to soil contamination from pesticides and herbicides.	Potentially Significant	**MM 3.7-2** As part of the application submittal for subsequent site development plans within the project area, each project applicant shall have a qualified engineer conduct a Phase II Soil Investigation. (For parcels 221-011-071 and –018, both a Phase I and Phase II will be required). The Phase II ESA shall assess whether soils on the project site were contaminated by storage or use of hazardous chemicals including pesticides. The Phase II study shall also ensure that the oil well on APN 221-011-017 was capped and abandoned consistent with current requirements Federal, State and local requirements. To the extent that soil contamination is detected during the Phase II	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		Investigation, the applicant shall develop a remediation program to address any identified contamination hazard, if present. The remediation program shall be prepared and submitted as a component of specific development applications. The applicant shall demonstrate compliance with the recommendations and remedial measures as part of final improvement plans.	
Impact 3.7-3 Development of the project site may expose people and/or property to hazardous substances in connection with previous land uses.	Potentially Significant	**MM 3.7-3** During the project review and analysis process for subsequent site-specific applications, the applicant shall provide evidence that all contaminants and contaminant sources have been addressed in a manner that removes the health hazards from the site in accordance with applicable regulations. Specifically, the applicant shall demonstrate that all issues identified through Phase I and Phase II ESAs have been addressed through implementation of the environmental expert's recommendations. Specific measures shall include, but not be limited to the following: a. All on-site water wells shall be properly abandoned according to the regulations of the California Department of Water Resources. b. Any subsurface pipelines encountered during site preparation or construction shall be examined by a qualified professional for the possible presence of asbestos. If the subsurface pipelines contain asbestos, the applicant shall have them removed, transported and disposed of in accordance with the local, county and state regulations. c. Prior to the issuance of a demolition permit and/or conducting any repair, renovation, or demolition work on any on-site structures, the project applicant shall have a qualified professional conduct an asbestos survey and implement the recommendations of that survey. d. Any existing septic tank found on the project site shall be abandoned in accordance with California Department of	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		Water Resources guidelines and the County of Monterey requirements. e. During excavation or throughout any part of the development process the project applicants shall remove and dispose of any additional hazardous materials and/or petroleum products in accordance with local, state and federal guidelines. f. All areas with stains, leakage or noticeable odors shall be analyzed for subsurface contamination by a qualified professional in accordance with MM 3.7-2. g. The project applicant for development on APN 221-011-068 shall remove and dispose of the tank labeled "sulfuric acid" and its contents located on the western portion of parcel. The tank shall be removed and disposed of in accordance with local, state and federal regulations. If there is any evidence of leakage or staining around the tank the applicant should have the area analyzed for contamination by a qualified professional consistent with MM 3.7-2. h. Prior to the reuse of property containing the 32 soil piles found on APN 221-011-017, the project applicant shall have the piles sampled for constituents of concern during the Phase II ESA required by MM3.7-2. If the soil piles are not to be used in the future development of the project site they should be removed in accordance with local, state and federal guidelines. Implementation of the above mitigation measures, in conjunction with **MM 3.7-2**, would reduce potential impacts from hazardous substances to a less than significant level by requiring that all potential contaminants, contaminant sources and hazardous conditions be tested and remediated prior to site development, in accordance with all federal, state and local regulations.	

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.7-4 Future industrial uses at the project site could result in impacts related to the generation, storage and handling of hazardous chemicals and substances.	Potentially Significant	**MM 3.7-4a** As part of subsequent project application submittals, specific industrial and highway commercial users and/or tenants shall be identified. As specific industrial and highway commercial users are proposed and become known, the environmental review conducted for use permits and other entitlements shall address the location and potential impact of such use upon surrounding land uses. Heavy industry and highway commercial projects that pose a potential risk to surrounding land uses shall be located through site planning to minimize land use conflicts. **MM 3.7-4b** Handling and/or storage of hazardous materials associated with future uses shall take place in accordance with the requirements of the Monterey County Health Department Environmental Health Division and the California Department of Toxic Substances Control.	Less than Significant
Impact 3.7-5 The eventual development and buildout of the project area only presents health hazard or upset impacts to the project area and immediate vicinity.	Les than Significant	Implementation of the project would result in potential risks associated with exposure to hazardous substances such as pesticides, hydrocarbons and other substances associated with previous land uses. However, Health Hazards/Risk of Upset impacts would be site-specific and are generally not affected by cumulative development in the region. The existence of city-wide conditions of a similar nature will not "combine" with the South End SOI issues to create a larger effect. Any and all hazard impacts and remediation measures are specific to the area they are located. Cumulative effects are therefore less than significant.	Les than Significant
Drainage and Water Quality			
Impact 3.8-1 Development resulting from project approval would alter existing drainage patterns, increase impervious surfaces and increase surface water runoff thus contributing to existing localized drainage, flooding and	Potentially Significant	**MM 3.8-1a** At the time of submittal of subsequent applications to develop the subject properties, the applicant shall provide a detailed drainage concept plan that adequately accommodates increased runoff. On the west side of the highway, basin plans shall be designed handle residential runoff and to avoid adding	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
erosion problems on or off-site.		runoff to State drainage facilities at Highway 101. The City recommends that basin location be placed at the eastern end of the parcel to take advantage of existing slope, and to provide additional separation between residential uses, the Highway and El Camino Real. The project applicant for any proposed development located on the east side of Highway 101 shall also provide a detailed drainage concept plan which addresses runoff from the 110 acres of proposed highway commercial and 60 acres of proposed industrial uses. The drainage concept plans for all areas shall be designed to contain 100-year storm events on-site and shall include: detailed hydrologic modeling that considers land use, existing facilities, soil, and topographic data; erosion control and best management practices, descriptions of proposed flood control facilities; compliance with waste discharge requirements; phasing and implementation; identification of the entity that is responsible for facility design and construction, Clean Water Program compliance, and facility maintenance. The detailed drainage concept plans shall be subject to review and approval by the Public Works Director and City Engineer. **MM 3.8-1b** Where possible the retention basin should be developed to provide additional recreation benefits for the City; as such, retention basins over five acres in size shall be designed for multiple uses such as parks and playing fields when not used for holding water. All tentative maps and drainage improvements shall be subject to approval by the City Engineer and Public Works Director. **MM 3.8-1c** In accordance with current State regulations, all future development resulting in grading or excavation, which disturbs five acres or more, shall require coverage under the	

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		NPDES General Permit. The discharger shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) and shall otherwise comply with all standards and regulations as required by the State Water Resources Control Board.	
Impact 3.8-2 The proposed annexation area is not within the recognized 100-year flood plain.	Less than Significant	According to the FEMA Flood Insurance Rate Map, the project area is not located within a 100-year flood zone. The area may be affected to a small degree by inundation resulting from the failure of either the Nacimiento or San Antonio Reservoir Dams as identified in the *Greenfield General Plan*; however, according to the *Monterey County Central Salinas Valley Area Plan*, the area is not subject to dam failure inundation. The project area is not located in a coastal area and is therefore not subject to tsunami or seiche.	Less than Significant
Impact 3.8-3 Slope and soil disturbance associated with site preparation, grading and construction activities resulting from the project, especially during the rainy season, may cause soil erosion and sedimentation or the release of other pollutants into adjacent waterways.	Potentially Significant	**MM 3.8-3** All drainage and erosion control plans submitted in compliance with MM 3.8-1a through 3.8-1c shall incorporate temporary measures effective from October 1 through March 31 that ensure eroded or exposed soils are maintained on-site during construction	Less than Significant
Impact 3.8-4 The proposed project would generate urban non-point contaminants, which may be carried in stormwater runoff from paved surfaces to downstream water bodies.	Potentially Significant	Implementation of **MM 3.8-1a through 3.8-1c** will mitigate the potential water quality impacts by requiring drainage facilities of adequate size (thus containing flows) and by incorporating erosion control and other permanent best management practices into the project would reduce the impact of non point source pollution to a less than significant level.	Less than Significant
Impact 3.8-5 New development, combined with other reasonably foreseeable projects in the City of Greenfield, would contribute to increased surface runoff and greater runoff contamination in an area that historically was used for agriculture.	Less than Significant	the City of Greenfield requires that all new projects follow the City's retention design criteria, which requires all new developments to design and construct facilities such as stormwater retention basins adequate to limit flow to pre-development levels, and best management practices for control of surface water contaminants. The application of these standards and practices at	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		each development site would result in minimization of the combined impact.	
Land Use			
Impact 3.9-1 Inclusion of the South End SOI project area within the recognized Greenfield General Plan and Sphere of Influence will be consistent with the goals and policies of the City of Greenfield and affected agencies.	Less than Significant	LAFCO has approval authority over the Sphere of Influence amendment and any subsequent or concurrent request for annexation. One of the missions of LAFCO is to discourage urban sprawl, avoid premature conversion of agricultural land, and encourage the orderly formation and development of local agencies. Based upon the analysis of LAFCO policies, the project is consistent with LAFCO's *Standards for the Evaluation of Proposals*.	Less than Significant
Impact 3.9-2 The amendment of the SOI, GPA, annexation and eventual site development will place new urban land uses at the southern edge of existing neighborhoods in Greenfield.	Less than Significant	The South End SOI project area is located adjacent to the City's s SOI and incorporated boundary, in an area used almost exclusively for agriculture. There is one residential home located on the project site, with the nearest established neighborhoods represent by St. Charles Place and the neighborhood located north of the high school. Neither of these established neighborhoods or community areas will be divided or disrupted by the project.	Less than Significant
Impact 3.9-3 Development of the project area could impact, or be impacted by, adjacent environmental conditions on neighboring properties.	Potentially Significant	The application for annexation of the Scheid West parcel shall also include annexation of the "NH3 Service Company" parcel.	Less than Significant
Impact 3.9-4 The proposed project, combined with other foreseeable projects in the City of Greenfield, will contribute to the changing urban landscape in the Greenfield area.	Less than Significant	As the City of Greenfield continues to develop according to its General Plan, growth is expected to occur in a planned and organized manner over a period of approximately 20 years. The project as proposed will represent the southern boundary of that plan. The land use impacts identified are mitigated on a project-specific level, and no other land use issues from cumulative development within the City will "combine" with the project to	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		create a new significant impacts.	
Noise			
Impact 3.10-1 The proposed project could result in construction-related noise that would exceed applicable City noise standards at nearby noise-sensitive land uses.	Potentially Significant	**3.10-1a** To reduce the effects of construction noise, the applicant shall require construction contractors to: 1. Limit high noise-producing activities to the least noise-sensitive times of day and week (e.g., 7:00 am to 6:00 pm, Monday through Friday); 2. locate construction equipment and equipment staging areas at the furthest distance possible form nearby noise sensitive land uses; 3. properly maintain construction equipment, equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation; and 4. When not in use, motorized construction equipment shall not be left idling. **MM 3.10-1b** During construction activities on APN 221-011-068, located west of Highway 101, the project applicant shall have construction contractors place temporary acoustic barriers (vinyl noise curtains or walls) along the northern boundary sufficient to shield nearby classrooms from noise-generating construction activities.	Less than Significant
Impact 3.10-2 The proposed project would result in new stationary-source noise, particularly noise from commercial and industrial uses that could exceed applicable City noise standards at nearby noise-sensitive land uses.	Potentially Significant	**MM 3.10-2** Prior to approval of subsequent development applications, the project applicant shall have site specific acoustical analyses conducted to determine predicted noise impacts attributable specifically to the proposed project, taking into account site-specific conditions (e.g., site design, location of structures, specific use, building characteristics). The acoustical analysis shall evaluate stationary and mobile source noise attributable to the proposed uses, exposure of noise-sensitive	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		land uses to existing noise sources, and quantify project-related impacts to nearby noise-sensitive land uses, in comparison to adopted City of Greenfield noise standards. Mitigation measures shall be identified to reduce project-related noise impacts at noise-sensitive receptors. Suggested mitigation measures include, but are not limited to, the following: a. Use of increased noise-attenuation measures in building construction (e.g., dual-pane, sound-rated windows; mechanical air systems; exterior wall insulation, etc.); b. Locating mechanical equipment (e.g., air conditioning and ventilation systems, pump stations, etc.) within rear-yard areas and/or provide shielding from nearby existing and proposed noise-sensitive land uses; c. Limit noise-generating operational activities associated with the proposed commercial land uses, including truck deliveries and the loading and unloading of materials to daytime hours; d. Include noise-reduction features (e.g., sound walls, truck-to-dock seals, increased setback distances/shielding) in the design of loading docks at commercial land uses; e. Construction of sound walls between noise-generating land uses and neighboring residential development. f. Limit landscape maintenance activities to the least noise-sensitive daytime hours (e.g., 7 a.m. to 7 p.m.); and g. Limit the use of amplified sound systems or public address systems associated with commercial or industrial uses to the least noise-sensitive daytime hours (e.g., 7 a.m. to 7 p.m.).	
Impact 3.10-3 Implementation of the proposed project would not contribute to a substantial increase in ambient noise levels.	Less than Significant	With buildout of the proposed project, predicted traffic noise would not contribute to a substantial increase in ambient noise levels at existing noise-sensitive land uses that would exceed the City's noise standards.	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.10-4 The proposed project would result in the development of noise-sensitive land uses (residential dwelling units) in an area where predicted noise levels would exceed City of Greenfield noise standards.	Potentially Significant	**MM 3.10-4** The project applicant for the residential portion of the project site shall include noise barriers to shield the planned residential dwelling units proposed for construction west of Highway 101. The barriers would act to shield proposed uses from transportation and non-transportation noise sources, barriers would likely be required along eastern boundary of the parcel, parallel to El Camino Real, and along the property line adjoining Greenfield High School. In general, a noise barrier constructed of sufficient density (approximately 20 kilograms/square meter minimum) can achieve a five dBA noise level reduction when it is tall enough to break the line-of-sight from the noise source to the receiver. Barriers can achieve an approximate 1.5 dBA additional noise-level reduction for each meter of increased height. Openings in noise walls for connections to adjoining land uses or roadways substantially reduce the effectiveness of barriers. Noise barriers provide no attenuation for receptors that rise above the barrier, such as multi-story residential buildings. The specific noise-reduction features should be implemented in the final site design for the residential portion of the project. Implementation of the above mitigation measure along with **MM 3.10-2** would be effective in reducing interior noise levels of new residential development to **less than significant** levels. In addition site planning opportunities exist at the proposed residential development, to set back the location of the residential uses from Highway 101 by possibly placing the storm water detention basin for the parcel between the Highway and residential uses.	Less than Significant
Impact 3.10-5 The project will contribute to cumulative traffic on the roadway network, which will not substantially increase noise level over cumulative non-project noise levels. The increase in noise level ranges from 1.1 to 3.65	Less than Significant	With buildout of the proposed project, predicted traffic noise would not contribute to a substantial increase (less than five dBA) in ambient noise levels at existing noise-sensitive land uses that would exceed the City's noise standards.	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
dB Ldn, as, indicated by Table 3.10-7.			
Traffic and Circulation			
Impact 3.11-1 In the interim development scenario, the one-way stop intersection of El Camino Real/Espinosa Overpass/High School Driveway will operate at an overall LOS F during both the AM and PM peak hour.	Significant	**MM 3.11-1** The project is responsible for widening and other improvements at the two-way stop controlled intersection at the El Camino Real/Espinosa Overpass/High School Driveway. The intersection shall be widened to include a northbound right turn lane and signalization. With these improvements, the intersection will operate at LOS B. All improvements are the responsibility of the project, and shall be complete prior to first occupancy.	Less than Significant
Impact 3.11-2 In the interim development scenario, the Highway 101 NB ramps/Patricia Lane/El Camino Real (south) two-way stop controlled intersection would operate at overall LOS D during the AM peak hour, and LOS F during the PM peak hour. The intersection would operate at LOS F on the worst approach during both the AM and PM peak hour.	Significant	**MM 3.11-2** The project is responsible for widening and other improvements at the intersection of El Camino Real (south/Highway 101 NB Ramps/Patricia Lane. Required improvements include a separate westbound right turn lane and signalization. The Highway 101 NB on- and off- ramp shall be lengthened via auxiliary lanes to accommodate the increase in traffic volumes and to bring the ramps to Caltrans standards. With these improvements the intersection will operate at LOS B in the AM peak hour and LOS C in the PM peak hour. All improvements are the responsibility of the project, and shall be complete prior to first occupancy.	Less than Significant
Impact 3.11-3 In the interim development scenario, the project will add traffic volumes to Highway 101 north and south.	Less than Significant	The analysis indicates that with the addition of the interim project trips, no widening of Highway 101 is required with or without the interim project development.	Less than Significant
Impact 3.11-4 Full buildout of all phases of the project as proposed, together buildout of the Greenfield General Plan land uses, will cause several study intersections to operate below LOS C or D during the AM and/or PM peak hour. This cumulative buildout condition triggers the need for significant improvements to the City's	Significant	**MM 3.11-4a** The project shall be responsible for providing a new interchange at Highway 101 and Espinosa Road, including all related ramp improvements, lane configurations and necessary right of way acquisition as specified in the Traffic Impact Analysis (Higgins Associates, February 2006). The interchange shall be required at such time as traffic trips associated with project development warrant the improvement.	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
roadway network, including a new freeway interchange at Highway 101 and Espinosa Road.		As the interchange is not warranted without the project, the project shall fund the cost of the interchange up front until such time as reimbursement agreements, bonds, fees or other shared funding options are put in place by the City of Greenfield. **MM 3.11-4b** The project shall be responsible for fair share contribution toward a series of planned intersection improvements as identified within the Greenfield General Plan Circulation Element. Fifteen intersections, as identified in the Traffic Impact analysis (Higgins Associates, February 2006) are significantly affected by project buildout. The project shall contribute fair share funding toward these intersection improvements through payment of traffic impact fees prior to issuance of building permits. If the project triggers these improvements, the project may also be required to provide up front funding until such time as reimbursement agreements, bonds, fees or other shared funding options are put in place by the City.	
Impact 3.11-5 Full buildout of all phases of the project as proposed, together buildout of the Greenfield General Plan land uses, will cause several roadway segments to operate at LOS E or F.	Significant	**MM 3.11-5** The project shall be responsible for fair share contribution toward a series of planned intersection improvements as identified within the Greenfield General Plan Circulation Element. Fifteen intersections, as identified in the Traffic Impact analysis (Higgins Associates, February 2006) are significantly affected by project buildout. The project shall contribute fair share funding toward these intersection improvements through payment of traffic impact fees prior to issuance of building permits. If the project triggers these improvements, the project may also be required to provide up front funding until such time as reimbursement agreements, bonds, fees or other shared funding options are put in place by the City.	Less than Significant
Impact 3.11-6 Implementation of the project will require modifications to the Greenfield's	Significant	**MM 3.11-6a** Detailed site planning within the South End SOI area shall accommodate plans for the expanded roadway	Less than

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
roadway network at the south end of City. Expansion of the City's planned roadway network to accommodate land uses within the Sphere of Influence Amendment is a significant impact of project buildout.		network and "loop" connection system. Circulation planning shall be conducted in consultation with the Director of Public Works at the time of application submittal, and shall be consistent with the Circulation Element. Any project requiring the expanded roadways will be required to dedicate right of way and construct roads to City standards. **MM 3.11-6b** Prior to the City's application to LAFCO to amend the SOI, the project applicant shall contribute a share of the costs associated with updating the General Plan Circulation Element, as the update is required as a direct result of the project. Appropriate share will be determined by the City of Greenfield. **MM 3.11-6c** Immediately upon approval of the project by the City of Greenfield, the applicant shall fund the full cost of updating the City's traffic impact fee program, as the update is required as a direct result of the project.	Significant
Impact 3.11-7 With full General Plan buildout plus Project traffic, additional widening on Highway 101 to six lanes would be required.	Significant and Unavoidable	There is currently no fee collection mechanism in place by the City, TAMC or Caltrans for the funding of Highway 101 widening projects within or outside the City. Widening of the highway would be considered a major capital project, and no calculations have been made regarding the cost of such improvements. As such, project mitigation for widening the freeway through the City (or contributing towards a regional widening project north of the City) is considered infeasible until such time that the City establishes an impact fee specifically to be used toward freeway mainline widening. Until such a fee is in place, the project impact on the freeway between Thorne Road and Oak Avenue, as well a project contribution to cumulative freeway impacts north of Thorne Road, is considered significant and unavoidable.	Significant and Unavoidable
Impact 3.11-8 Buildout of the proposed project will result in a need for on-site parking	Less than	The proposed project will be required to provide sufficient on-site parking supply meeting the City's requirements for each of	Less than

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
facilities.	Significant	the proposed uses.	Significant
Impact 3.11-9 The proposed project will result in the construction of residential development in a largely rural setting lacking adequate pedestrian facilities and bicycle facilities and lanes.	Potentially Significant	**MM 3.11-7a** The project applicant(s) shall design and construct adequate bicycle facilities including lanes, routes, or paths in compliance with the Greenfield General Plan and current Zoning Ordinance. The design and location of bicycle facilities will be demonstrated as part of future application submittals and subject to review by the City of Greenfield. **MM 3.11-7b** Applicants shall construct sidewalks along project frontages, entrances, Espinosa Road and along the interior street of the proposed residential development as required by City standards. Project and subdivision design shall emphasize pedestrian connectivity between land uses by utilizing trails and pathways in project design.	Less than Significant
Impact 3.11-10 The future construction of residential dwelling units and of highway commercial uses will result in a greater demand for area transit services.	Less than Significant	Future residential, industrial and highway commercial on the project site is expected to result in slight increases in demand, but is not expected to require physical expansion of any transit systems.	Less than Significant
Impact 3.11-11 Buildout of the project, including all required roadway improvements and roadway system expansions, will result in secondary environmental effects through the construction of those improvements.	Potentially Significant	**MM 3.11-11** As more detailed planning involving specific physical infrastructure improvements are made available, such improvements shall undergo additional CEQA review either as stand alone projects or as components of specific development projects. All mitigation as required by that review shall be imposed upon the construction and implementation of needed infrastructure improvements.	Less than Significant
Public Services and Utilities			
Impact 3.12-1 The project would increase demand for water resources an average of 418,104 gallons per day (gpd), or 468.33 acre-	Less than Significant	Based on the City's existing municipal supplies and reduction in agricultural uses, impacts to groundwater resources or the existing supply associated with the full build-out of the South End	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
feet annually (AFA).		SOI project site is expected to be less than significant.	
Impact 3.12-2 The project would require extension of the existing potable water delivery system to provide water to the project site.	Potentially Significant	**MM 3.12-2** Prior to approval of the first subsequent tentative or subdivision map associated with project development, the applicant shall provide water system infrastructure plans for the entire project area to the City of Greenfield for review an approval. Water system plans shall provide detail regarding location, connections, pressure and the phased extension of the water system. All water system plans shall be developed in coordination with the City. The applicant will be responsible for construction of system extension, and/ or payment of impact fees as determined by the City to fund the extension. Construction of these improvements would result in typical construction impacts as part of the development of the proposed project. Those impacts would be resolved through mitigation of other construction impacts and will be subject to compliance with City regulations.	Less than Significant
Impact 3.12-3 The project would require extension of the existing wastewater system and result in additional demands upon the existing treatment plant.	Potentially Significant	MM 3.12-3 The applicant for the first development proposed within the annexation area shall be required to design and construct wastewater collection system improvements to adequately serve the entire annexation area, in accordance with City specifications for such improvements. These improvements shall be shown on all subdivision maps and development plans for the annexation area and shall be submitted to the City Engineer for review and approval. Construction of these improvements would result in typical construction impacts as part of the development of the proposed project. Those impacts would be resolved through mitigation of other construction impacts and will be subject to compliance with City regulations.	Less than Significant
Impact 3.12-4 The conversion of the project site from agricultural to urban use will generate	Less than Significant	The project Applicant's would be required to pay a Police Impact Fee to assist in covering the costs of additional police coverage. Payment of this fee would ensure that police services are	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
additional demand for law enforcement services.		maintained at an acceptable level.	
Impact 3.12-5 The conversion of the project site from agricultural to urban residential use will generate additional demand for fire services.	Less than Significant	Project developers would be required to extend water mains into the project area and pay fire impact fees charged by the Greenfield Fire Protection District. All development in the project area would be required to implement current fire safety codes in compliance with the California Building Code, Uniform Fire Code and obtain approval from the City of Greenfield for design features such as project access and turning radii, road grades and road widths adequate for emergency equipment access.	Less than Significant
Impact 3.12-6 The project would increase the demand for electric, natural gas, telephone and cable services.	Potentially Significant	**MM 3.12-6** Prior to Final Map approval, the project applicant shall obtain and submit a "will-serve" letter from PG&E.	Less than Significant
Impact 3.12-7 Development of the project would increase the demand for primary and secondary educational services within Greenfield.	Less than Significant	All development within the proposed project would be subject to a School Impact Fee as calculated by the Districts, per statute, and due prior to issuance of occupancy permits. The School Impact Fees from the project site would contribute to development, expansion and modifications to existing and proposed public school facilities.	Less than Significant
Impact 3.12-8 The proposed project would eventually generate approximately 3,680 pounds/day of solid waste.	Less than Significant	The Johnson Canyon Landfill, a privately owned facility covering 163 acres operated by Salinas Valley Solid Waste Authority, serves Greenfield. According to City engineering staff, the landfill facility had a remaining refuse capacity of 2.9 million tons as of June 1999 and is expected to provide capacity to the Salinas Valley through 2042. The maximum project solid waste generation (2,200 tons/year), extrapolated over the remaining life of the landfill, would use less than five percent of the remaining landfill capacity. The City of Greenfield also has a successful recycling program in place to reduce the volume of refuse	Less than Significant

Potential Project Impact	Level of Significance w/o Mitigation	Mitigation Measure	Resulting Level of Significance
		deposited in the landfill.	
Impact 3.12-9 Development of the project would generate up to 1,316 new residents, increasing the need or demand for new parks and recreational activities.	Potentially Significant	MM 3.12-9 In accordance with Policy 7.7.2 of the Greenfield General Plan, the project Applicants' within the proposed annexation area shall cumulatively dedicate at least 4.46 acres for improved parks and recreation purposes, and shall contribute fees in-lieu of dedicated open space, in an amount determined as appropriate by the City.	Less than Significant
Impact 3.12-10 The cumulative increase in potable water demand, from groundwater sources, for all reasonably foreseeable projects is considered a less than significant impact.	Less than Significant	Buildout of the General Plan Area plus the proposed project would result in a total potable water demand for the City of Greenfield of approximately 5,993 AFA. The General Plan also indicated that the City has the capacity to serve approximately 6,500 AFA with expansion of the system. Project Applicants would also be required to mitigate cumulative water system impacts through contribution of applicable impact fees.	Less than Significant
Impact 3.12-11 The cumulative increase in demand for wastewater treatment services would be 287,200 (gpd).	Less than Significant	Upon annexation of the proposed project site, the project will be included as part of the future growth area of the City and therefore would contribute to the increase in volume and usage of the wastewater treatment plant. Project Applicants would be required to mitigate cumulative water system impacts through contribution of applicable sewer impact fees. Individual developments within the annexation area would also be responsible for installing wastewater infrastructure to serve specific properties.	

1.0 Introduction

This Draft Environmental Impact Report (DEIR) for the South End Sphere of Influence (SOI) Amendment project has been prepared in accordance with the California Environmental Quality Act (CEQA). The purpose of the DEIR is to evaluate the potential environmental effects associated with the Sphere of Influence amendment, and related General Plan amendment for approximately 267 acres of land adjacent to the southern end of the City of Greenfield. This introductory section summarizes the purpose of the EIR; describes the environmental procedures that are to be followed according to state law; the intended uses of the EIR; the EIR's scope and organization; contact persons; and impact terminology.

1.1 BACKGROUND AND OVERVIEW

The City of Greenfield (City) is the Lead Agency in the preparation of this EIR to provide the public, responsible and trustee agencies, with information about the potential environmental effects of the proposed South End SOI (project). As described in CEQA Guidelines Section 15121(a), an EIR is a public information document that assesses potential environmental effects of the proposed project and identifies mitigation measures and alternatives to the proposed project that could reduce or avoid adverse environmental impacts. Public agencies are charged with the duty to consider and minimize environmental impacts of proposed development where feasible, and have an obligation to balance a variety of public objectives, including environmental, economic, and social factors.

The 267 acre project site consists of four separate parcels. The parcel numbers, acreage, ownership, proposed uses, requested actions and entitlements related to the project are detailed below in **Table 1-1,** Project Overview.

TABLE 1-1
PROJECT OVERVIEW

Parcel	Acreage	Owner	Requested Actions	Proposed Land Use
221-011-017 "Franscioni"	171	Franscioni Family (TMV Lands)	SOI Amendment, GPA, Prezoning, Williamson Act Exchange, and Annexation	Highway Commercial, Heavy Industrial, Ag easement
221-011-068 "Scheid West"	47	Scheid Vineyards	SOI Amendment, GPA, Prezoning, and Annexation	Low Density Residential
221-011-071 "Scheid East"	46	Scheid Vineyards	SOI Amendment, GPA, Prezoning, and Annexation	Highway Commercial, Heavy Industrial
221-011-018 "L.A. Hearne"	3	L.A. Hearne Company	SOI Amendment, GPA, Prezoning, and Annexation	Highway Commercial

CEQA requires the preparation of an EIR prior to approval of any "project" that may have a significant effect on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has potential to result in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]). With respect to the proposed South End SOI project, the City has determined the SOI amendment, resulting GPA (and reasonably foreseeable development) of the property is a "project" within the definition of CEQA, which has the potential to result in significant environmental effects.

1.2 TYPE OF DOCUMENT

CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a "Program" EIR pursuant to CEQA Guidelines Section 15168. A Program EIR is an EIR which may be prepared for a series of actions that can be characterized as one large project and are related either:

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

In this case, a series of actions in the form of related entitlements and individual development proposals are anticipated over time within a defined geographic area.

1.3 INTENDED USES OF THIS EIR

This EIR has been prepared in accordance with CEQA and is consistent with the most recent edition of the CEQA Guidelines and its updates. This document will be used by the City and any other responsible or reviewing agency as a first-tier document to identify and evaluate significant environmental issues related to the proposal.

This EIR will be used in conjunction with the City of Greenfield General Plan EIR as part of the City's application to Monterey County LAFCO for a citywide SOI amendment. This analysis is based on the potential effects of the proposed project, as measured against the existing condition of the site and its surroundings. Section 2.0 contains a detailed Project Description. Actions that would be taken relative to the project evaluated in this EIR are listed under subheading 2.7, Requested Actions and Required Approvals.

1.4 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR will involve the following procedural steps:

NOTICE OF PREPARATION

In accordance with Section 15063 of the CEQA Guidelines, the City of Greenfield determined that an EIR would clearly be necessary for the project; therefore, no initial study was prepared. In accordance with Section 15082(a) of the CEQA Guidelines, the City prepared a Notice of Preparation (NOP) of an EIR in November 2005. The NOP is included as Appendix A within this EIR. The NOP was circulated to the public, local, state, and federal agencies, and other interested parties to solicit comments on the proposed project. Concerns raised in response to the NOP were considered during preparation of the Draft EIR and are also included in Appendix A.

DRAFT EIR

The DEIR contains a description of the project, description of the environmental setting, identification of project impacts and effects found not to be significant, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives. Upon completion of the DEIR, the City will file a Notice of Completion (NOC) with the State Office of Planning and Research, in accordance with Section 15085 of the CEQA Guidelines. This begins the public review period (Public Resources Code, Section 21161) for the DEIR.

PUBLIC NOTICE/PUBLIC REVIEW

Concurrent with the NOC, the City will provide public notice of the availability of the DEIR for public review in accordance with CEQA Guidelines Section 15087(a), and will invite comment from the general public, Responsible Agencies, organizations, and other interested parties. The review period in this case will be 45 days. Although no public hearings on the EIR are required by CEQA, the City expects to hold a public review meeting during the 45-day review period at which time public comment on the DEIR will be accepted both in written form and orally. Notice of the time and location of the hearing will be published prior to the meeting.

All comments or questions regarding the Draft EIR should be addressed to:

Mark McClain, Building Official and Planning Manager
City of Greenfield
45 El Camino Real
Greenfield, CA 93927
Phone: (831) 674-5591

RESPONSE TO COMMENTS/FINAL EIR

Following the public review and comment period for the DEIR, a Final EIR (FEIR) will be prepared. The FEIR will respond to written comments received during the public review and comment period and to oral comments made at any public hearings. The Planning Commission and City Council will review and consider the FEIR prior to their decision to approve, revise, or reject the proposed project.

CERTIFICATION OF THE EIR

If the City finds that the FEIR is "adequate and complete", the City may certify the FEIR. The rule of adequacy generally holds that the EIR can be certified if: 1) it shows a good faith effort at full disclosure of environmental information, and 2) provides sufficient analysis to allow decisions to be made regarding the project in contemplation of environmental considerations. It is intended that LAFCO will use this document in the consideration of the citywide SOI amendment and annexation of the project site.

PROJECT CONSIDERATION

Upon review and consideration of the FEIR, the City may act upon the project. A decision to approve the project would be accompanied by written Findings in accordance with CEQA Guidelines Section 15091 and, if applicable, Section 15093 (Statement of Overriding Considerations). As a Sphere of Influence amendment and annexation request, the proposal also requires approval by the Local Agency Formation Commission (LAFCO). If the FEIR is certified by the City Council, the City will subsequently petition LAFCO for an annexation and boundary adjustment as part of the citywide SOI amendment request that includes the proposed project area. The request to annex the subject property may follow the City's SOI amendment as part of a separate application.

MITIGATION MONITORING

The City must adopt a Mitigation Monitoring and Reporting Program for mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment (Public Resources Code Section 21081.6(a)). This program will be designed to ensure that these measures are carried out during project implementation. The specific reporting or monitoring program required by CEQA is not required to be included in the EIR. Throughout the EIR, however, mitigation measures have been clearly identified and presented in language that will facilitate establishment of a monitoring and reporting program. Any mitigation measures adopted by the City as part of the certified FEIR will be considered as conditions for approval of the project and will be included in the Mitigation Monitoring and Reporting Program to ensure and verify compliance.

1.5 SCOPE AND ORGANIZATION

Sections 15122 through 15132 of the CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include:

- a description of the environmental setting,
- an environmental impact analysis,
- mitigation measures,
- alternatives,
- significant irreversible environmental changes,
- growth-inducing impacts, and
- cumulative impacts.

The environmental issues addressed in the DEIR were established through the preparation of environmental documentation and supporting technical reports developed for the project, public agency responses to the Notice of Preparation, and comments received. Based upon documentation, technical reports, NOP responses, agency consultation and review of the project application, the City has determined the scope for this EIR. This Draft EIR is organized in the following manner:

SECTION S - EXECUTIVE SUMMARY

This section summarizes the characteristics of the proposed project and provides a concise summary matrix of the project's environmental impacts, associated mitigation measures and project alternatives.

SECTION 1.0 - INTRODUCTION

This section provides an introduction and overview describing the intended use of the EIR and the review and certification process.

SECTION 2.0 - PROJECT DESCRIPTION

This section provides a detailed description of the proposed project, including intended objectives, background information, and physical and technical characteristics of the project.

SECTION 3.0 - ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

This section contains an analysis of environmental topic areas to be addressed, as identified below. Each subsection contains a description of the existing setting of the project area, identifies project-related impacts, and recommends mitigation measures where necessary.

The following major environmental topics are addressed in this section:

- *3.1 Aesthetics and Visual Resources:* The potential change in character as measured against the existing setting and visual conditions of the project area is discussed. Project visibility, scale, additional light and glare, and community character are considered relative to the existing character of the area. Compliance of the proposed project relative to the City of Greenfield Gateway Overlay is also addressed.

- *3.2 Agricultural Resources:* The agricultural resources subsection of the EIR analyzes the conversion of agricultural land at the project site and the potential conversion of surrounding agricultural properties with implementation of the proposed project. The analysis will contain a full disclosure of the proposed Williamson Act easement exchange. The impact evaluation will identify land use compatibility potential safety hazards associated with new development adjacent to farmland, as well as the value and loss of agricultural resources at the project site.

- *3.3 Air Quality:* This subsection addresses the requirements of the Monterey Bay Unified Air Pollution Control District and analyzes local and regional air quality impacts associated with project implementation including long-term operational emissions from mobile and stationary sources.

- *3.4 Biological Resources:* Potential impacts upon biological resources in the affected area are analyzed in this subsection of the EIR based on a site reconnaissance of the project site by Pacific Municipal Consultants. This sub-section discusses the potential degradation or elimination of important species, and potential impacts on listed, proposed, and candidate threatened and endangered species.

- *3.5 Cultural Resources:* This subsection analyzes the presence or absence of potentially significant archaeological and historic resources at the project site. The results of a records search at the Northwest Information Center at Sonoma State University, Rohnert Park; a sacred lands search conducted by the Native American Heritage Commission; consultation with Native Americans and other interested parties; as well as field surveys by Pacific Municipal Consultants cultural resource staff are presented within this subsection.

- *3.6 Geology, Soils & Geologic Hazards:* This subsection examines potential geologic and seismic hazards, as well as any engineering constraints and general soil suitability for the land uses proposed by the project applicant, including heavy industrial, residential and highway commercial uses. The analysis includes engineering recommendations for geologic hazards or soil constraints identified. The engineering recommendations are based on the geotechnical report prepared by Twining Laboratories for a portion of the project area.

- *3.7 Hazard/Risk of Upset:* Potential presence of residual or stored agricultural pesticides and leaking underground storage tanks on the project site are examined. The potential risk of these conditions in proximity to existing and proposed development and human activities is evaluated. The subsection also presents a full discussion of potential human exposure to hazardous materials and conditions in the event of an accident, explosion or other upset conditions. This subsection is based upon two separate Phase I ESA's completed for the project by Twining Laboratories.

- *3.8 Drainage and Water Quality:* The impacts of the proposed project on hydrology, storm drainage, water resources, and water quality are discussed. The analysis identifies existing drainage patterns and estimates storm drainage runoff that would be generated by the conversion of the site from agricultural to urban uses.

- *3.9 Land Use:* The project's relationship to relevant regional and local plans, including the City of Greenfield General Plan and other local planning documents, is discussed. The analysis focuses on project consistency with adopted plans and policies, project relationship to the recently adopted General Plan and the potential to affect existing neighborhoods. This subsection also provides a thorough discussion of LAFCO policies and state law governing boundary adjustments.

- *3.10 Noise:* Compatibility between the existing noise environment and anticipated noise levels generated by the project and cumulative noise from area roadways upon completion of the project are examined.

- *3.11 Transportation and Circulation:* This subsection examines potential impacts on the area roadway network, including roadway segments and intersections. Existing roadway conditions, existing conditions plus the project conditions, and cumulative conditions, based on cumulative projects planned for future development, are evaluated.

- *3.12 Public Services and Utilities:* This subsection addresses the availability of existing public facilities and services, and calculates demand generated by the proposed project for additional facilities such as schools, parks, police and fire services. It also provides a general assessment of additional system requirements

and physical improvements needed to serve the build-out demands of the proposed project. The provision of potable water resources, wastewater treatment and disposal, natural gas and electric service and solid waste impacts are addressed in this subsection of the EIR. Impacts are assessed based upon increased demands on these systems and service availability.

SECTION 4.0 – ALTERNATIVES TO THE PROJECT

CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project, which could feasibly attain the basic objectives of the project and avoid and/or lessen the environmental effects of the project. This alternatives analysis compares the proposed project and the selected alternatives. These alternatives include:

- *Alternative 1 – No Project/No Development:* CEQA Guidelines Section 15126.6(e)(3) requires that a "no-project" alternative be evaluated as part of an EIR, proceeding under one of two scenarios: the project site remaining in its current state or, development of the project site under its current zoning designation. Alternative 1 considers the environmental effects of not approving the proposed project and the site remaining in its current undeveloped agricultural state with no southern amendment to the SOI boundary.

- *Alternative 2 – "No Residential Alternative":* This alternative assumes a reduction in the overall size of the proposed project by eliminating the 46 acres (up to 329 units) of low density residential on the west side of the highway (Scheid West parcel). The Sphere of Influence line west of Highway 101 would remain the same as shown in the City's adopted (2005) General Plan. Like the proposed project, as mitigated, this alternative assumes buildout of the Highway Commercial and Heavy Industrial portion of the project in phases. The intent of this alternative is to reduce significant impacts associated with the project by removing potentially sensitive receptors (new residences).

- *Alternative 3 – "Original SOI Alternative":* Alternative 3 assumes that the Highway Commercial and Heavy Industrial components of the South End SOI project on the east side of Highway 101 would be relocated to the industrial area of the City's General Plan planning area in the southeast section of the City. The residential component (and amended SOI on the west side of Highway 101) would remain as proposed. The purpose of this alternative is to fit the proposed uses into the City's General Plan planning area as adopted in May 2005, without dramatically amending the SOI to the south along the freeway.

SECTION 5.0 – CUMULATIVE IMPACT SUMMARY

This section evaluates the cumulative impacts generated by a list of past, present and reasonably foreseeable future projects in proximity to the project area, as identified by the City and in various technical analyses. This information is coordinated with the traffic analysis to ensure that it is consistent with cumulative growth.

SECTION 6.0 – LONG-TERM EFFECTS

This section contains required discussions and analyses of various topical issues mandated by CEQA Guidelines Section 15126.2, including: significant and unavoidable environmental effects; growth inducing impacts; irreversible environmental changes and effects found not to be significant.

SECTION 7.0 - REPORT PREPARERS AND REFERENCES

The purpose of this section is to provide a list of all lead agency personnel, EIR authors, subcontractors and agencies that assisted in the preparation of the report by name, title, and company or agency affiliation. It also itemizes supporting and reference data used in the preparation of the Draft EIR and lists all governmental agencies, organizations, and other individuals consulted in preparing the Draft EIR.

APPENDICES

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

1.6 IMPACT TERMINOLOGY

This Draft EIR uses the following terminology to describe environmental effects of the proposed project:

- *Standards of Significance:* A set of criteria used by the lead agency to determine at what level, or "threshold", an impact would be considered significant. Significance criteria used in this EIR include the CEQA Guidelines and Statutes; factual or scientific information; regulatory performance standards of local, state, and federal agencies; and the Goals, Objectives, and Policies of the City of Greenfield General Plan.

- *Less Than Significant Impact:* A less than significant impact would cause no substantial change in the environmental and no mitigation is required.

- *Potentially Significant Impact:* A potentially significant impact may cause a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project effects using specified standards of significance. Mitigation measures and/or project alternatives are identified to reduce project effects to the environment.

- *Significant Unavoidable Impact:* A significant and unavoidable impact would result in a substantial change in the environment for which no feasible mitigation is available to reduce the impact to a less than significant level, although mitigation may be available to lessen the degree of the impact.

- *Cumulative Impact:* Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

2.0 Project Description

2.1 PROJECT LOCATION

Regional Location

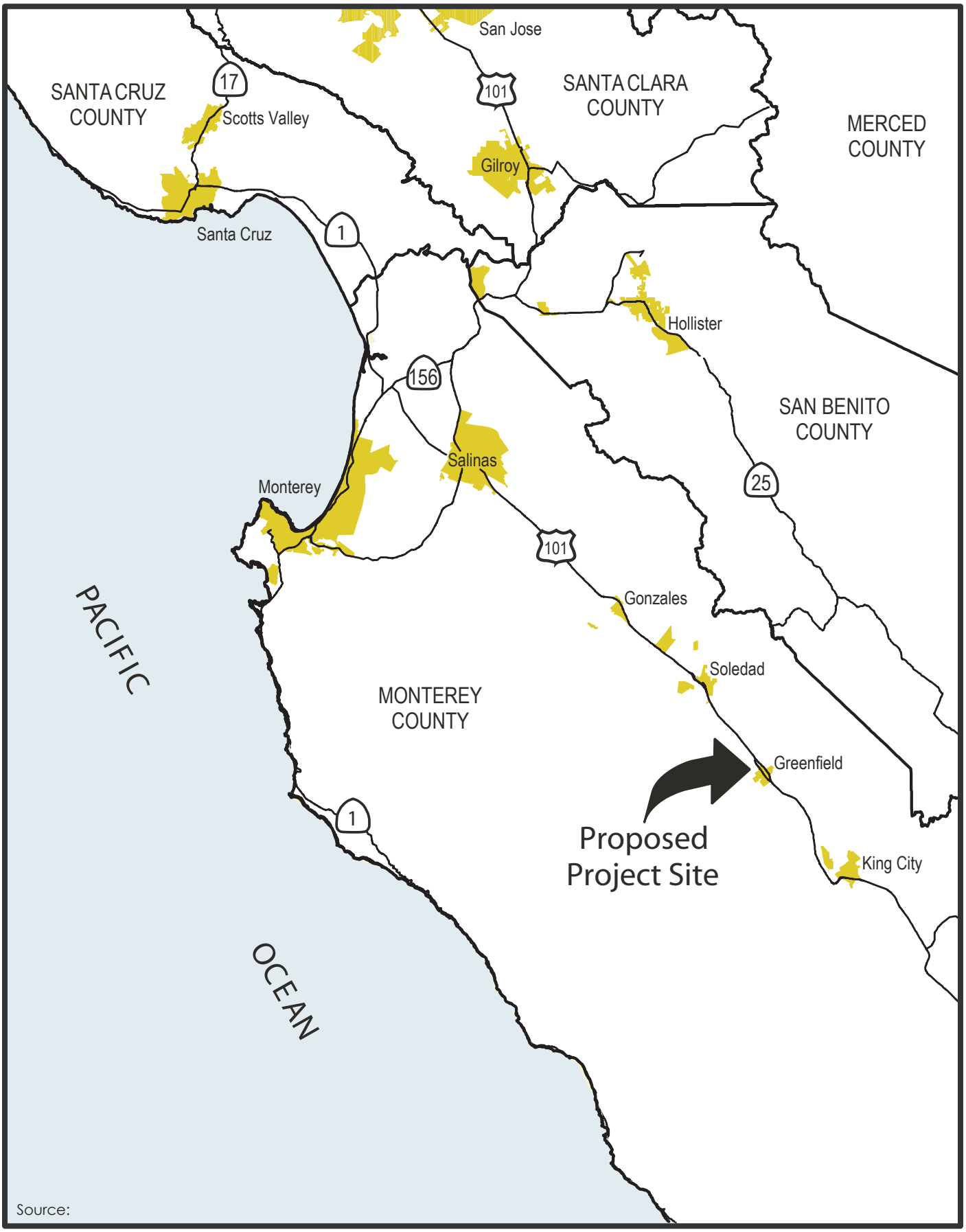
The South End SOI Amendment project site is located immediately south of the City of Greenfield, situated in the southern Salinas Valley in central Monterey County. U.S. Highway 101 is the main regional highway in this area, running north and south through the Salinas Valley. The City is located along Highway 101, approximately 40 miles southeast of Monterey Bay, 35 miles south of Salinas and 60 miles north of Paso Robles. Neighboring communities within 25 miles include the cities of Gonzales and Soledad to the north, and King City to the south. The project's regional location is illustrated in **Figure 2-1.**

Project Vicinity and General Site Conditions

The 267-acre project area is located at the City of Greenfield's southern edge, immediately south of the city's incorporated boundaries. U.S. 101 bisects the project site into eastern and western sections. On the east side of the highway the site is bounded by agricultural uses to the south and east, Espinosa Road to the south, and agriculture and light industrial uses to the north. On the west side of Highway 101 the project site is bounded by Greenfield High School and Vista Verde Middle School to the north, and agricultural uses to the south and west. The St. Charles Place mixed use development sits between the project's eastern and western sections, between El Camino Real and the highway.

The parcels that comprise the project area total approximately 267 acres, most of which is irrigated farmland currently used to grow row crops and vineyards. Three acres are used for agricultural equipment storage. The topography of the project site and relative vicinity is generally flat, typical of the Salinas Valley region. The site lies at an elevation of approximately 280 feet above mean sea level with the ground surface sloping gently to the south. The project vicinity is illustrated in **Figure 2-2.**

This Page Intentionally Left Blank



T:\City of Greenfield\Graphic Development\Figures\Figure 2-1.ai, January 2006

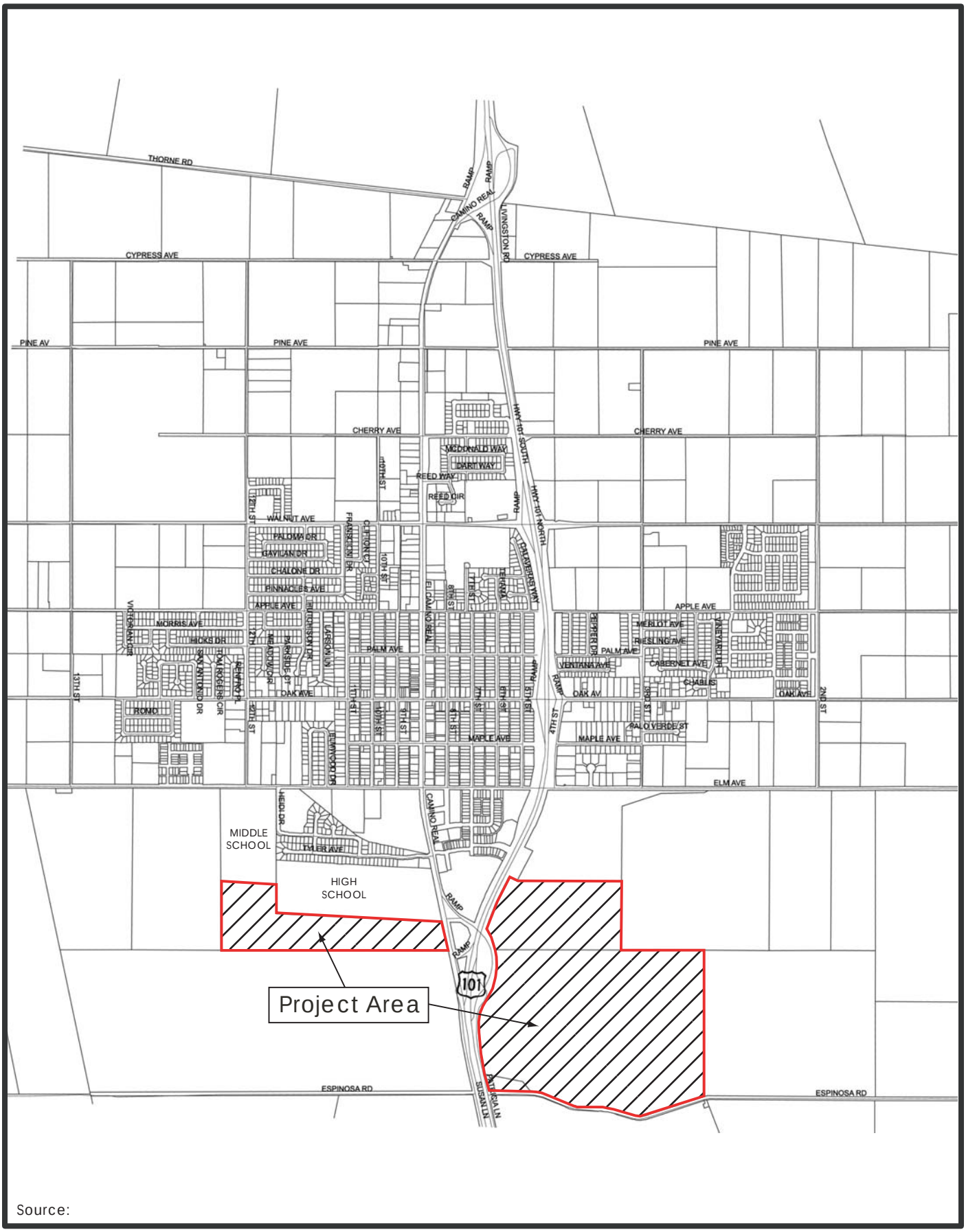
0 5.5 11.0
Scale in Miles

N

Figure 2-1
Regional Location

PMC

This Page Intentionally Left Blank



Source:

T:\City of Greenfield\Graphic Development\Figures\Figure 2-2.ai, January 2006

NOT TO SCALE

N

FIGURE 2-2
PROJECT VICINITY

PMC

This Page Intentionally Left Blank

2.2 CURRENT OWNERSHIP AND PARCELIZATION

The South End SOI project site is comprised of four parcels under the ownership of three separate entities. The property owners include Scheid Vineyards, the Franscioni family (TMV Lands) and the L.A. Hearne Company. TMV Lands has real interest in 171 acres (APN 221-011-017) located north of Espinosa Road on the east side of Highway 101. Scheid Vineyards has real interest in 93 acres (APN 221-011-071, and 221-011-068) located east and west of the highway. LA Hearne Company owns APN 221-011-018 which consists of approximately three acres, located at the southwest corner of US Highway 101 and Espinosa Road. Table 2-1 summarizes the ownership, size, current uses, and proposed future use of each parcel.

TABLE 2-1
CURRENT AND FUTURE USES BY PARCEL OWNERSHIP

APN	Owner	Size (acres)	Current Use	Proposed Future Use
221-011-017	Ray Franscioni (TMV Lands)	171	Farming/ Agriculture	Highway Commercial, Heavy Industrial and Agricultural Easement
221-011-071	Scheid Vineyards	46	Farming/ Agriculture	Highway Commercial and Heavy Industrial
221-011-068	Scheid Vineyards	47	Farming/ Agriculture	Low Density Residential
221-011-018	L.A. Hearne Company	3	Agricultural Equipment Storage	Highway Commercial

2.3 PLANNING REQUIREMENTS FOR EACH PARCEL

The South End SOI project involves a series of complex land use actions and boundary changes that ultimately relate to the City of Greenfield's General Plan and proposed Sphere of Influence boundaries. The project as described within this EIR represents the "whole of the action", made up of several components. However, because the four parcels comprising the project involve slightly different land use actions specific to each parcel, the disposition of each is described in more detail below.

APN 221-011-017 – "Franscioni Parcel". This 171-acre parcel is not currently part of the City's General Plan area. As with all four parcels, it is also outside the existing City SOI. As such, this parcel will require a General Plan Amendment to bring the area into the General Plan and proposed SOI boundaries. The underlying land uses would be

changed from Agriculture (Monterey County) to Highway Commercial and Heavy Industrial. The eastern portion of this parcel also contains an agriculture easement of approximately 50 acres. This agricultural easement is the result of a Williamson Act exchange agreement that is being prepared as part of this project. Under the exchange agreement (described in detail in Section 3.2), this 50-acre area would remain in agriculture. As such, 121 acres are considered "developable" for planning and descriptive purposes. As the Franscioni parcel is proposing both Highway Commercial and Heavy Industrial land uses, the City is also recommending subdivision of the parcel so that the various land use boundaries clearly match legal parcel lines.

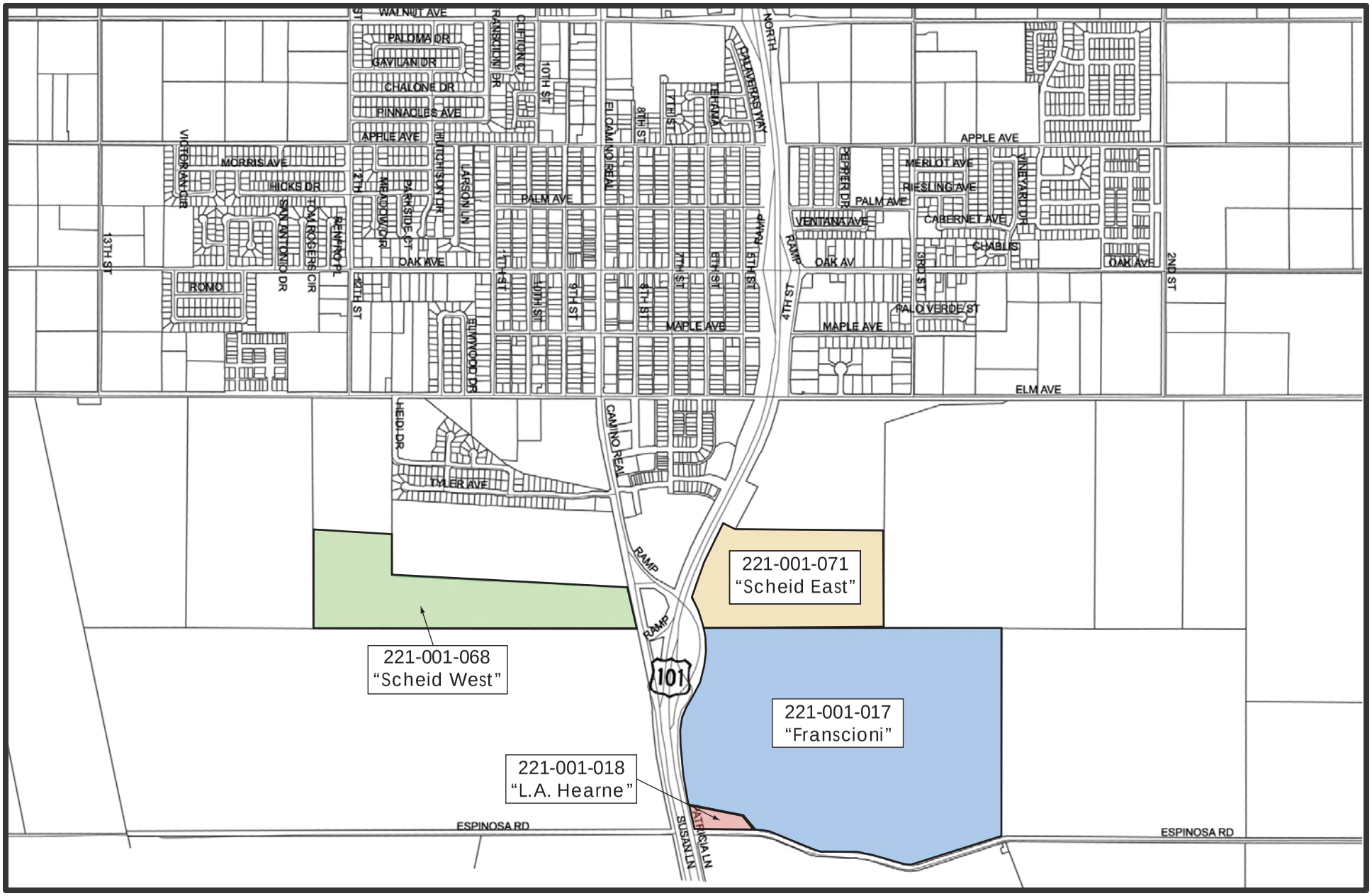
APN 221-001-071 – "Scheid East" Parcel. This 46-acre parcel north of Franscioni is currently within the City's General Plan boundaries, and is designated as Heavy Industrial. Because approximately half of the parcel is proposed for Highway Commercial, this parcel will require a General Plan land use change to allow the Highway Commercial use, as well as inclusion in the City's proposed SOI. Like the Franscioni parcel, the City is recommending subdivision of the parcel so that the two land use boundaries match legal parcel lines.

APN 221-001-018 – "L.A. Hearne" Parcel. This three-acre parcel at Highway 101 and Espinosa Road is currently used for agricultural equipment storage. This parcel has been included in the project boundaries primarily to create a more uniform SOI boundary and to allow better planning opportunities at the intersection of primary roadways. This parcel requires a General Plan land use change from Agriculture (County) to Highway Commercial (City), as well as inclusion within the City's proposed SOI boundary.

APN 221-001-068 – "Scheid West" Parcel. This 47-acre "L" shaped parcel west of the highway requires a General Plan amendment to bring the property from Agriculture (County) to Low Density Residential (City).

All parcels (including a constrained 3-acre parcel lodged between Highway 101 and El Camino Real and incidental right of way area included within the proposed SOI) are part of a single General Plan Amendment to accommodate the land uses described above. All parcels will also be part of the City of Greenfield's larger city-wide Sphere of Influence amendment, described below. The applicants have requested annexation of the four parcels into the City of Greenfield, although annexation may be part of an application to LAFCO apart from and subsequent to the application to amend the SOI.

Parcels are illustrated in **Figure 2-3.** Proposed land uses are shown in **Figure 2-4.**



T:\City of Greenfield\Graphic Development\Figures\Figure 2-3.ai, January 2006

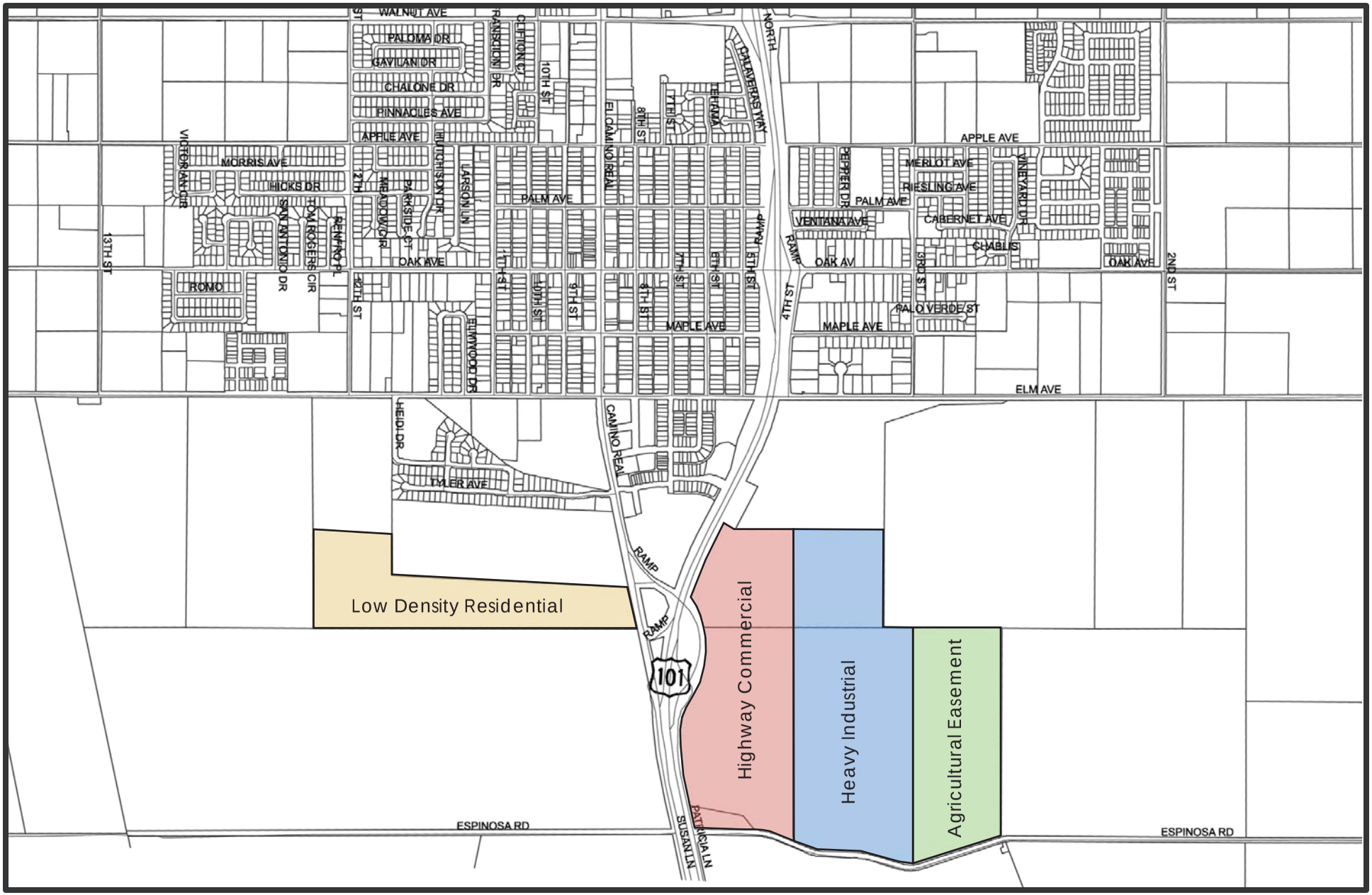
NOT TO SCALE

N

FIGURE 2-3
SUBJECT PARCELS

PMC

This page intentionally left blank.



Not to Scale

N

Figure 2-4
Proposed Land Uses

PMC

T:\City of Greenfield\Graphic Development\Figures\Figure 2-4.ai, January 2006

This page intentionally left blank

2.4 PROJECT RELATIONSHIP TO THE GREENFIELD CITY-WIDE SOI AMENDMENT

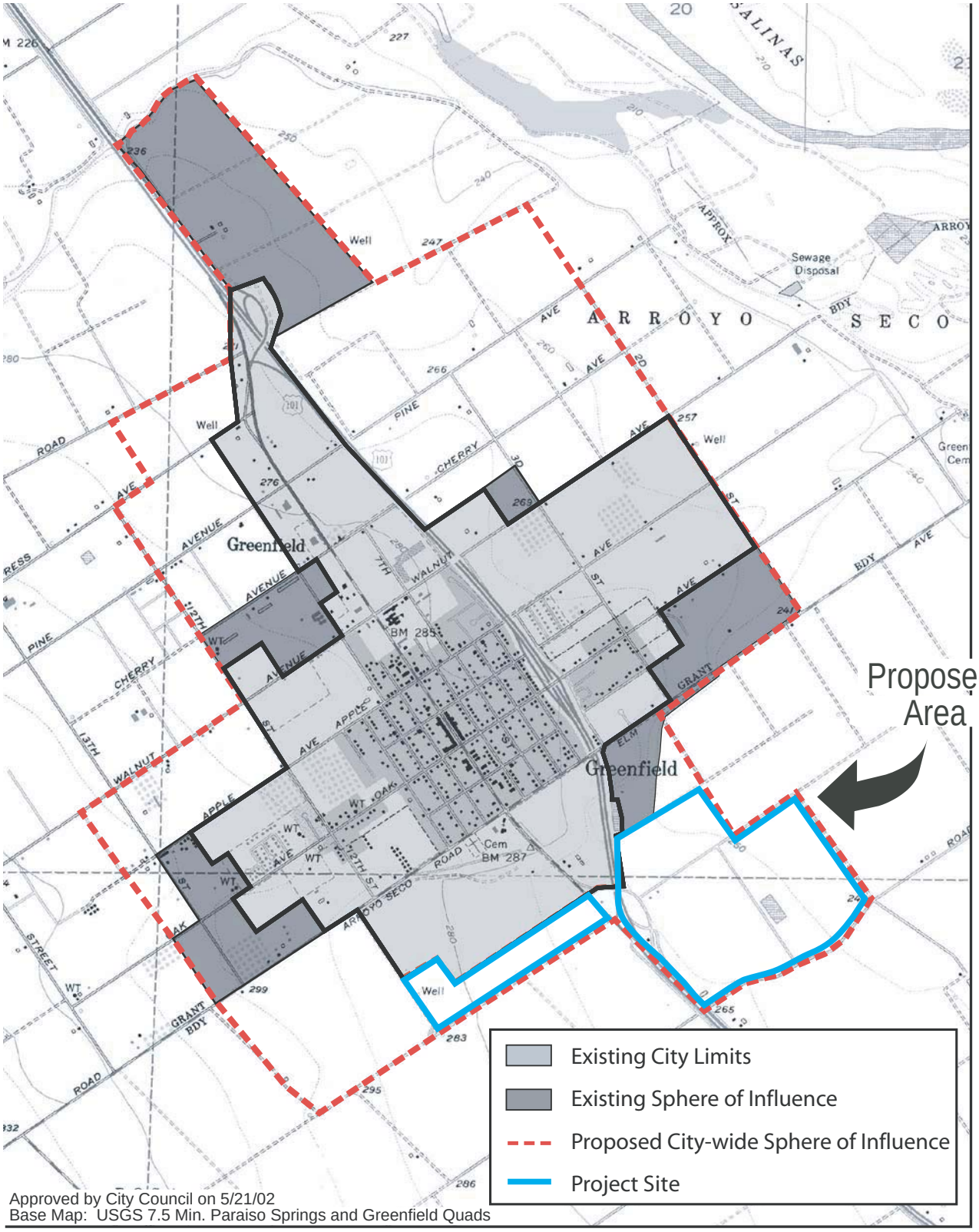
The City of Greenfield adopted a comprehensive General Plan Update in May 2005. Following adoption, the City began preparing an application to LAFCO Monterey County to amend its city-wide SOI boundary to match its new General Plan planning boundaries.

Based on continued public input and meetings with LAFCO staff, the City is considering changes (amendments) to its adopted General Plan and proposed SOI. The amendments are focused on removing areas of extremely high quality farmland on the east, and making a more logical boundary adjustment on the west. Those amendments are in process at this time, and are anticipated to be complete by the time the City submits an application to LAFCO to amend its SOI boundary. This issue is also discussed in Section 3.9, Land Use.

The South End SOI Project was proposed to city officials near the end of the General Plan process. At that time, the City decided to analyze the South End proposal, but to do so in a way that would not jeopardize the work already completed on the General Plan. As such, the South End SOI project is being considered and analyzed on its "own merits", as a separate and distinct project. Should the City decide to approve the South End SOI Project, the project boundaries will be included in the City's SOI Amendment application to LAFCO. The city-wide boundary will be considered by LAFCO as a whole. The environmental documents for the City's General Plan, together with this EIR for the South End SOI, will constitute the environmental record for LAFCO's consideration of the entire city-wide SOI boundary. Should the City deny the South End SOI project, the City's application to LAFCO would show the South End project removed from the SOI.

The project's relationship to City of Greenfield planning boundaries is shown in **Figure 2-5**.

This Page Intentionally Left Blank



Source: USGS 7.5 Min. Paraiso Springs and Greenfield Quads/City of Greenfield General Plan

0 1000 2000
SCALE IN FEET

N

FIGURE 2-5
RELATIONSHIP TO CITY PLANNING BOUNDARIES

PMC

T:\City of Greenfield\Graphic Development\Figures\Figure 2-5.ai, January 2006

This page intentionally left blank

2.5 PROJECT LAND USE AND DEVELOPMENT CHARACTERISTICS

The project site consists of approximately 267 acres of land south of the City of Greenfield incorporated limits. The application requests multiple entitlements for a General Plan Amendment, Sphere of Influence Amendment, prezoning of property, and annexation of property. No subdivision maps or detailed site plans are proposed as part application. Specific development applications for specific uses and site planning will require additional environmental review by the City of Greenfield.

A summary of proposed land uses and acreage are shown in **Table 2-2** below:

TABLE 2-2
LAND USE SUMMARY AND DEVELOPMENT POTENTIAL

Parcel	Total Acreage	Proposed Land Use	Development Potential
221-011-017 Franscioni	171	Highway Commercial (61 acres), including: -Truck Stop (25 acres) -Hotel/Motel (50 rooms) -Storage Facility (10 acres)	664,922 sf
		Heavy industrial (60 acres)	784,083 sf
		Agricultural Easement (50 acres)	None
221-011-068 Scheid West	47	Low Density Residential (47 Acres)	329 du (maximum)
221-011-071 Scheid East	46	Highway Commercial (23 acres)	250,471 sf
		Heavy Industrial (23 acres)	300,565 sf
221-011-018 LA Hearne Company	3	Highway Commercial (3 acres)	32,670 sf
Totals	267	267	915,393 sf - Highway Commercial 1,084,648 sf – Heavy Industrial 329 du – Low Density Residential

Notes and Assumptions:

1. Development Potential is based on site coverage (25% for Highway Commercial; 30% for Heavy Industrial).
2. Specific Uses (truck stop, motel, storage facility) are conceptual at this time. Exact uses and locations are estimated for analysis purposes only.
3. 329 residential units represents maximum possible yield. Net yield is estimated at 293 units.

Proposed Land Uses

Highway Commercial Development

If approved and implemented, highway commercial use would be developed along the eastside of Highway 101 on approximately 87 acres. The highway commercial portion of the project would be developed on the western portion of the Franscioni, Scheid East and L.A. Hearne parcels. At this time the applicants are considering a range of uses, including a travel center that would accommodate truck parking, restaurants and other visitor serving uses consistent with the City's Highway Commercial designation. No specific development plans have been proposed, the location of specific uses are not known, and the three-acre L.A. Hearne parcel will probably remain as an equipment storage facility in the near term. However, this EIR assumes buildout of all parcels at maximum allowable site coverage in order to provide a through and conservative analysis. Site coverage for highway commercial uses is assumed at 25 percent.

Heavy Industrial Development

The heavy industrial uses would be developed on the eastern portion of the Scheid East and Franscioni parcels. Typical uses anticipated for development within the City's Heavy Industrial designation include processing of agricultural products, major wineries, agricultural support facilities, manufacturing, and similar. For analysis purposes, the EIR (and traffic study) assume site coverage of 30 percent.

Low Density Residential Development

Low Density Residential uses are proposed on the Scheid West parcel on the west side of Highway 101, along the southern boundary of Greenfield High School and Vista Verde School. This designation would allow single-family residential units at up to seven units per acre. Assuming full buildout of the 47-acre parcel at maximum density, the project could yield up to 329 dwelling units. Actual dwelling unit yield will probably be lower once maps account for roads, detention basins, and easements. For that reason, the traffic study assumes development of 293 units.

Traffic and Circulation Improvements

Primary access to the project area would be from Highway 101. East of the highway access to the project site would be made available via Espinosa Road. The proposed circulation system for the project would include the extension of Third Street through the project area to Espinosa Road (consistent with the Circulation Element), and it is assumed that Espinosa Road would be improved along the southern boundary of the project area. West of the highway access to the project site would be via El Camino Real / Patricia Lane. Intersection improvements at the south end of the City would also be required, and internal

streets for all development areas would also be provided. Parking for employees and customers of the commercial and industrial facilities would be required onsite. All circulation plans for the proposed project would be defined as part of subsequent development proposals, and will be subject to review and approval by the City of Greenfield.

Public Services and Infrastructure

Public Service and utilities, including water, wastewater services, gas, electricity, police and fire protection, etc., would be extended from the City to the project site as part of the proposed project. Section 3.13 of the EIR describes the potential impacts associated with the extension of services to the project area.

Gateway Overlay

Commercial and visitor serving areas that are located at the northern and southern entrances to the community serve as "gateways" to Greenfield. These areas should be aesthetically attractive since they provide an influential visual statement regarding the character of the community. Such areas should be designed to provide visual amenities that are not required for uses designed to serve more local needs. The purpose of the gateway overlay is to require the provision of attractive signage, additional landscaping, and greater attention to building design. The gateway overlay is intended to accomplish these purposes. The entire proposed 267-acre project site would be subject to the City's Gateway overlay.

2.6 PROJECT PHASING

The proposed project has been analyzed for potential development in two primary phases. The purpose of the phasing concept is to determine the thresholds for key traffic and infrastructure improvements, rather than to establish a development sequence. The project applicants have also indicated that future development phasing may be broken down further based upon market demand and uses proposed. The phasing concept to does not preclude or constrain the timing of the development of any of the subject parcels.

PHASE I "INTERIM" DEVELOPMENT

Phase I of the proposed project involves the development of up to a maximum of 329 single family residential units on the western side of the project and would also include the development of the entire Highway Commercial area on the east side of the project. Although the uses for the highway commercial portion of Phase I have not been confirmed, the project applicant has conceptually proposed travel-oriented uses including a truck stop and multiple pads suited for commercial/freeway oriented service providers (fast food,

restaurant, service station and hotel/motel). Phase I also assumes development of approximately 10 acres of "mini storage," or general industrial warehouse storage.

PHASE II - "BUILDOUT"

Phase II involves the balance (approximately 83 acres) of the heavy industrial land uses on the east side of Highway 101. At this time the project applicants have not determined what type of industrial uses would be included within Phase II. For analysis purposes, the EIR assumes maximum site coverage of heavy industrial use.

It is assumed that the proposed project site area would be fully developed within approximately 10-20 years. As stated previously, the purpose of the phasing was to identify the need for key infrastructure improvements, and does not necessarily dictate the development sequence of the parcels.

2.7 PROJECT OBJECTIVES

Consistent with CEQA Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the project shall be discussed. The following description of the project objectives is based on information provided by the project applicant and the City of Greenfield.

The principal objectives of the South End Sphere of Influence and General Plan Amendment project are as follows:

1. Sphere of Influence Amendment, General Plan Amendment and subsequent annexation and prezoning of approximately 267 acres, and extension of necessary services in accordance with LAFCO policy;
2. To establish the land use, environmental and processing framework for the planned development of residential uses, highway commercial uses and heavy industrial uses;
3. Contribute to the enhancement of the southern gateway entrance into the City of Greenfield. Enhance the character of the southern portion of the City by providing a transition between the surrounding fields and vineyards and the City.
4. Establish an industrial based job market in the southern portion of the City, an identified desire of the City.
5. To create a single-family residential neighborhood that would buffer the existing schools in the southern portion of the City from agricultural uses.
6. Create a well-designed, functional revenue generating highway commercial travel center. The travel center would accommodate truck parking, restaurants, and highway commercial type of uses.

2.8 REQUESTED ACTIONS, ENTITLEMENTS AND REQUIRED APPROVALS

This EIR provides the environmental information, analysis and primary CEQA documentation necessary for the City and LAFCO to adequately consider the environmental effects of the project.

The City of Greenfield, as lead agency, will consider the project at the local level. The primary approvals sought at the local level include the SOI Amendment, General Plan amendment, annexation into the City. LAFCO, with approval authority for the SOI amendment and annexation, is a responsible agency and would take action after the City on those items.

Future approvals within the project area, if approved, would require additional site planning and related permits, additional CEQA compliance, and other processing steps as necessary. Those steps may include, but are not limited to, the following:

- Residential Subdivision Maps;
- Parcel Maps;
- Site Development Plans;
- Circulation Plans;
- All Final Improvement Plans;
- Utility Plans;
- Construction Phasing and Duration;
- Architectural and Site Plan Review;
- Landscaping and Lighting Plans;
- Development Agreements;
- Caltrans approvals and permits for encroachment and improvements relative to Highway 101;
- Grading and Building Permits; and/or
- Other related subsequent actions to further project implementation.

REFERENCES / DOCUMENTATION

City of Greenfield. *City of Greenfield General Plan and EIR.* 2005.

City of Greenfield. *City of Greenfield Zoning Ordinance.* 1981 as updated.

Notice of Preparation for a Draft Environmental Impact Report. October 2005.

Coats Consulting, and the Law Offices of Aaron P. Johnson. Project description, information and plans.

County of Monterey. *Central Salinas Valley Area Plan*. 1987.

County of Monterey. *Monterey County General Plan*. 1982

3.0 Environmental Setting, Impacts and Mitigation Measures

Section 3.1
Aesthetics & Visual Resources

This section of the EIR identifies potential visual and aesthetic impacts that could occur as a result of the project. The primary visual a-d aesthetic concerns are the general changes in land use and visual character from agricultural to urban uses, the potential impacts to existing views from adjacent properties and the location of the project as a southern gateway into the City. Visual impacts were evaluated using a combination of site reconnaissance, photo documentation, aerial photographs and review of existing policy documents.

3.1.1 EXISTING SETTING

REGIONAL SETTING

Much of the Greenfield area has retained its rural agricultural character. Greenfield lies in the south Salinas Valley and is bounded by the Santa Lucia Mountains and Los Padres National Forest on the west and the Gabilan Mountain Range and benchlands to the east. The mountains provide visual relief from urbanization and agricultural uses on the Valley floor. The elevation of the City ranges between approximately 290 and 310 feet above mean sea level, with terrain that is mostly flat and level and slopes downward toward the east. Other important visual features in the area include the Salinas, San Antonio and Nacimiento Rivers and tributaries, the San Antonio and Nacimiento Reservoirs and numerous canyons, valleys and creeks. Highway 101 traverses the area, and represents a prominent visual and aesthetic landmark within the Salinas Valley.

VISUAL CHARACTER OF THE PROJECT AREA

Dominant Features

The 267-acre project site is located south of the incorporated city limits, east and west of Highway 101, north of Espinosa Road. Highway 101 bisects the project site. The land area south of the City can be characterized as a blend of industrial and agricultural uses, with agriculture the dominant land use. The project site is predominately rural agriculture in character consisting of irrigated farmland, intensive field crop production, and vineyard. There is currently one residence and one metal shed located on the project site, located on the east side of U.S. Highway 101 on the northern portion of the Franscioni parcel. An agricultural equipment storage facility is located on the LA Hearne parcel. Beyond these minor improvements, the land area is essentially used for agriculture, with the visual appearance consisting of production fields, windrows and unimproved farm roads.

Adjacent Land Uses and Views

West of U.S 101 (APN 221-011-068)

Land Uses to the North

On the west side of Highway 101 the northern portion of the project site abuts Greenfield High School and the Vista Verde Middle School.

Land Uses to the South

Active agricultural including row crops and vineyards are located south of the project site.

Land Uses to the East

El Camino Real serves as the eastern border of this parcel west of Highway 101. The NH_3 Service Company, an active fertilizer industrial plant, is located on the west side of Highway 101 between the eastern and western portions of the project and is bounded by El Camino Real and the Highway 101 on ramps.

Land Uses to the West

Active agricultural uses exist west of the project site including Arroyo Seco Vineyards and various row crops.

East Side of U.S. 101 (APN 221-011-017, 018 and 071)

Land Uses to the North

On the east side of Highway 101, lands to the north of the project site support active agricultural use. The St. Charles Place mixed use development project is also located north of the project site, between the highway and El Camino Real. St. Charles Place is currently under construction.

Land Uses to the South

Espinosa Road serves as the southern border of the project site east of the highway. South of Espinosa Road is intensive, active agriculture.

Land Uses to the East

Agricultural uses are to the east are also intensively farmed, and contain very high quality farmland.

Land Uses to the West

Highway 101 serves as the western border of the project site for parcels east of Highway 101. The NH_3 Service Company is located on the west side of Highway 101 between the eastern and western portions of the project and is bounded by El Camino Real and the Highway 101 on ramps.

Figures 3.1-1a, 3.1-1b and **3.1-2** provide views of the existing visual and land use conditions of the project site and immediate vicinity.

SCENIC VISTAS

A scenic vista is a view of natural environmental, historic and/or architectural features possessing visual and aesthetic qualities of value to the community. The term "vista" generally implies an expansive view, usually from an elevated point or open area. Greenfield and the proposed project site are located in the Salinas Valley. There are views and scenic vistas of distant mountain ranges to the east and west of the City and project site, as well as views of open farmland. There are also areas of active vineyard immediately west of the City and project site that provide distinction to Greenfield's visual landscape.

Open vistas, including views of distant mountain ranges located east and west of the City, can be seen while traveling north and south on Highway 101. Views provided by vantage points along the highway are important to the City of Greenfield because the visual appearance of development within the City helps to attract transient travel and tourist dollars and makes a statement regarding the City of Greenfield as a place to live. For this reason, the City has adopted "gateway" policies to help shape the appearance of new development within the northern and southern entrances to the City. However, the California Scenic Highway System identifies no designated scenic highways within the vicinity of the project site, and therefore there are no State-recognized visual policies that affect the project.

OTHER INDIVIDUAL SCENIC OR VISUAL RESOURCES

Scenic resources include, but are not limited to, significant trees, rock outcroppings, historic buildings and scenic highways. The project site consists mainly of active farmland; and no significant individual scenic resources have been identified within the project area.

This Page Is Intentionally Left Blank

Looking East from APN 221-011-068

Looking Northeast from the Southwest corner of APN 221-011-017

T:\City of Greenfield\Graphic Development\Figures\Figure 3.1-1a.ai, January 2006

FIGURE 3.1-1A
SITE PHOTOS

PMC

This Page Is Intentionally Left Blank

Southwest view from APN 221-011-017

Looking West at APN 221-011-068 from El Camino Real

T:\City of Greenfield\Graphic Development\Figures\Figure 3.1-1b.ai, January 2006

FIGURE 3.1-1B
SITE PHOTOS

PMC

This Page Is Intentionally Left Blank

LA Hearne Company Buildings located on APN 221-011-018, southwest of APN 221-011-017

NH3 Service Company between El Camino Real and U.S. Highway 101

T:\City of Greenfield\Graphic Development\Figures\Figure 3.1-2.ai, January 2006

FIGURE 3.1-2
SITE PHOTOS - SURROUNDING USES

PMC

This Page Is Intentionally Left Blank

3.1.2 REGULATORY SETTING

CITY OF GREENFIELD GENERAL PLAN

The City of Greenfield General Plan identifies specific land use policies and programs pertaining design standards and protection of visual resources. The General Plan states that new development should improve the physical appearance of the community while maintaining the City's small town character. Specifically, the General Plan identifies the entrances to the City as Gateway Overlay areas. This designation requires attention to aesthetics, landscaping, and signage to ensure that those entering the City are provided with an attractive view that reinforces the character of the community. Signs within the Gateway Overlay area and at entry points to the city along major roadways are required to help create an identity for Greenfield.

The Greenfield General Plan goals, policies and programs relevant to this project include the following:

Goal 2.8: Improve the community's physical appearance through creative planning, redevelopment and design of new development areas.

Policy 2.8.1: Future development shall employ planning principles that enhance community character in project design.

Policy 2.8.5: Encourage the use of attractive signage and monumentation at the entrances to residential districts, commercial areas, and other appropriate locations.

Policy 2.3.11: Commercial development projects shall incorporate landscaping that enhances the character and quality of the project and its immediate vicinity and reduces visual impacts of the development on surrounding properties.

Policy 2.9.1: Enhance community character by the development of entry signs, landscaping, and other appropriate amenities in the northern and southern Gateway Overlay areas.

EXISTING MONTEREY COUNTY GENERAL PLAN AND CENTRAL SALINAS VALLEY AREA PLAN

The existing Monterey County General Plan and Central Salinas Valley Area Plan contains goals and policies relevant to this discussion, as the project would require annexation and will be located immediately adjacent to County lands.

Monterey County General Plan

Goal 40: To maintain and enhance a system of scenic roads and highways through areas of scenic beauty; this without imposing undue restrictions on private property or constricting the normal flow of traffic.

Policy 40.2.1: Additional sensitive treatment provisions shall be employed within the scenic corridor, including placement of utilities underground, where feasible; architectural and landscape controls; outdoor advertising restrictions; encouragement of area native plants, especially on public lands and dedicated open spaces; and cooperative landscape programs with adjoining public and private open space lands.

Policy 40.2.2: Land use controls shall be applied or retained to protect the scenic corridor and to encourage sensitive selection of sites and open space preservation. Where land is designated for development at a density which, should maximum permissible development occur, would diminish scenic quality, the landowner shall be encouraged to voluntarily dedicate a scenic easement to protect the scenic corridor.

Policy 40.3.2: The County shall promote special scenic treatment and design within the right-of-way, to include highway directional signs, guardrails and fences, lighting and illumination, provision of scenic outlooks, road lanes, frontage roads, vegetation, grading, and highway structures.

Central Salinas Valley Area Plan

Policy 26.1.6.1 (CSV): Development shall have appropriate review where it is permitted in sensitive or highly sensitive areas as shown on the Scenic Highways and Visual Sensitivity Map.

CALIFORNIA SCENIC HIGHWAY PROGRAM

The California Scenic Highway Program was created by the State Legislature in 1963. Its purpose is to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in Section 260 of the Streets and Highways Code. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. Cities and counties can nominate eligible scenic highways for official designation by identifying and defining the scenic corridor of the highway. The municipality must also adopt ordinances to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes. These ordinances make up the Scenic Corridor Protection Program for each designated highway corridor under the California Scenic Highway Program.

3.1.3 PROJECT IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines and other performance standards recognized by the City of Greenfield. For the purposes of this EIR, a significant impact will occur if the project will result in one or more of the following:

1. Cause substantial adverse effect on a significant scenic vista;
2. Cause substantial damage to individual scenic resources including, but not limited to, trees, rock outcroppings, historic buildings or similar;
3. Substantially degrade the existing visual character or quality of the site and its surroundings;
4. Generate a new source of light and/or glare which would adversely affect day or nighttime views in adjacent areas;
5. Create an unattractive visual appearance of the built environment at the City's gateways; or
6. Result in a significant cumulative change to one or more visual or aesthetic resource when considered in the context of other projects.

METHODOLOGY

The analysis of potential aesthetic impacts is based upon field review of the project site and the surrounding areas, review of technical reports, background documents of the City of Greenfield including the General Plan and Zoning Code, and photographs of visual vantage points surrounding the project site. Potential impacts were assessed by forecasting the anticipated appearance of future development at the subject parcels, and predicting changes to the visual landscape.

PROJECT IMPACTS AND MITIGATION MEASURES

Aesthetic and Visual Character of the Project Site

Impact 3.1-1 The project would alter the aesthetic character of the project site and its immediate surroundings from rural agricultural use to urban residential, industrial and highway commercial uses. This is a **less than significant** impact at the project level.

3.1 AESTHETICS AND VISUAL RESOURCES

The South End SOI project is made up of four parcels; APN 221-011-068, 071, 018, and 017. Agricultural fields and operations surround most of the project area. Vista Verde Middle School and Greenfield High School are located immediately north of APN 221-011-068, located on the west side of the highway.

According to historical aerial photographs and discussions with local residents, the project site has been in agricultural use for at least 50 years. The project site, along with surrounding agricultural lands, contribute to the City's rural landscape and agricultural identity.

Urbanization of the project site would result in permanent land use changes and result in the loss of this agricultural landscape at the location of the subject parcels and south end of the City. Highway Commercial development along the east side of the highway would be the most prominent visual change, as there will be a natural tendency to construct high-visibility commercial uses to optimize the project's proximity to travelers.

The impact of permanent change to a place's "visual character" as caused by urban development is a somewhat subjective area of study, depending upon whether the reviewer believes the change is "good" or "bad". In reviewing this site, the City must also look at what defines the City's "visual character", or rural character. The site is an example of Greenfield area's agricultural landscape; however, there is only one residence in the area and no clearly defined contributors to an established "rural community", such as barns, homesteads, old fence lines or historic structures related to the City's agricultural heritage. The character of this particular area is comprised mainly of intensive commercial agricultural practices.

Alterations to the aesthetic and visual character of the site are expected to be most noticeable from Highway 101, and less so from Espinosa Road, Third Street, Elm Avenue, and the southern portion of El Camino Real. Temporary structures associated with construction and development such as contractor's trailers, cranes, security trailers, portable toilets and concrete mixers would be placed at the site during site preparation and construction of the project. Short-term aesthetic impacts are expected to result from the presence of these temporary structures and construction equipment.

Although these effects may be **less than significant** at the project-specific level, please see also **Impact 3.1-4** regarding visual appearance, as well as **Impact 3.1-5 and 3.1-6**, Cumulative Visual Impacts.

Individual Scenic or Visual Resources

Development of the project area will not result in the removal of scenic resources. The project site is primarily undeveloped farmland and has been in agricultural use for at least the past 50 years. There are no significant trees or rock outcroppings on the proposed

project site. There is one residence and one metal shed located on the proposed site, however PMC's cultural resource staff have indicated that the residence would not meet the eligibility criteria for the California Register of Historical Resources. The rural residence is not historically significant. Therefore there is **no impact** to significant, individual scenic resources.

Existing Views and Scenic Vistas

Impact 3.1-2 Land use changes and ultimate development within the project area would result in changes to the physical landscape and alter expansive views to and from surrounding properties and Highway 101. This is considered a **less than significant** impact.

The subject parcels are ultimately planned for residential, highway commercial, and heavy industrial development. Future homes, heavy industrial uses, and highway commercial uses will be visible from Highway 101 in the southern portion of the City and from adjacent streets to the north, south and east including Espinosa Road, Elm Avenue, and the southern most portion of El Camino Real. New development may also be visible from local schools, as well as from the new St. Charles Place neighborhood.

According to the Greenfield General Plan, the project site is not within a visually sensitive corridor or a clearly defined sensitive viewshed. Although future development would be visible from the surrounding agricultural uses located to the east, west and south of the project site, there is not an identifiable viewpoint or elevated vista on these adjacent properties from which the project would ultimately detract in a significant way. Viewshed and vista impacts from adjacent properties are therefore considered less than significant.

Highway 101, Elm Avenue and El Camino Real, however, are higher than the project site and provide more sweeping views to the agriculture fields to the south. Views from these areas are currently not obscured, and create a defined urban edge to the City. With annexation and ultimate development within this area, the urban edge will move south, and new development will be located in an area that has traditionally been part of the City's visual landscape. The proposed project site would be subject to the City's Gateway Overlay, which includes standards for development that require the attention to aesthetics, landscaping, and signage to ensure that the entrances into the City provide an attractive appearance that reinforces the character of the City. Visual appearance of the built environment at the proposed project site is further addressed in **Impact 3.1-4**. Since the proposed project is within the City's Gateway Overlay it would, along with **MM 3.1-4a-c,** render the visual changes as seen from the "vista" created by Highway 101 a **less than significant** impact.

Light and Glare

Impact 3.1-3 Buildout of the project area would introduce new sources of lighting within the project area that could adversely affect adjacent uses. The increase of residual or spillover glare and light is **potentially significant**.

Development of the proposed project site would result in the installation of street and parking lot lighting, security lighting, possible additional traffic lights and other light sources typical to highway commercial, industrial and residential-related uses from which night-time spillover of glare and light may potentially affect adjacent residential neighborhoods to the south and west. Although the project's adjacent land uses are not particularly sensitive to new lighting sources (most adjacent areas will remain as agriculture), the following measure is nonetheless required to ensure that lighting impacts from all new development are kept to a minimum:

Mitigation Measure

MM 3.1-3 Prior to approval of final maps for each phase of development, the project applicant shall prepare and submit to the City detailed exterior lighting plans that indicates the location and type of lighting that will be used. Exterior lighting shall specify type and maker, and demonstrate a non-intrusive quality (incorporate baffles and lens cut-offs to direct lighting downward lighting) while still providing an adequate amount of light for safety and/or security. Each applicant shall not position night lighting to illuminate areas beyond the site boundaries, but shall place lights or install shielded lights to illuminate only the area of concern.

Implementation of the above mitigation measure will ensure that light and glare impacts are reduced to a **less than significant** level by requiring that lighting be consistent with the requirements of the General Plan, Zoning Ordinance and the Gateway Overlay.

Visual Appearance of the Built Environment

Impact 3.1-4 Development Highway Commercial and Residential near the southern gateway along Highway 101 could significantly impact the overall visual quality and appearance of the City. This is considered a **potentially significant impact**.

The eventual buildout of the Highway Commercial portion of the project will include physical improvements, highly visible buildings and accompanying signage and monumentation along the Highway 101 corridor at the south end of the City. A small area of residential use will also be located in the City's southern "gateway" areas.

These areas are located within the City designated Gateway Overlay areas. The Greenfield General Plan indicates that proposed development and signage must be designed to reflect Greenfield's commitment to complement, rather than compete with, the surrounding agricultural area. If not properly designed with a heightened respect for visual appearance, the resulting development could create unpleasant views for neighboring properties and traffic traveling north and south on Highway 101, inconsistent with City policy. The following mitigation measures will reduce the impact to a less than significant level.

Mitigation Measures

MM 3.1-4a Landscape plans shall be submitted for all specific development proposals within the project site and shall indicate landscape details such as planting plans, plant palletes, and landscape features. Landscape plans shall be prepared by a licensed landscape architect, and shall include design themes and concepts consistent with the goals of the Gateway Overlay designation. The landscape criteria shall be reviewed and approved by the City and incorporated into the final subdivision map(s) and future site plans for the project.

MM 3.1-4b Utility lines shall be placed underground as required by City policy to minimize the visual impacts of man-made elements at the project site. The City Engineer shall review and approve the applicant's utility improvement plans.

MM 3.1-4c As a component of individual applications for development projects within the annexation area, applicants will submit detailed project design information to allow the City to make a determination of consistency with the Gateway Overlay designation. Such information shall contain detailed site plans, information regarding the project's proposed visual amenities, setbacks, signage and monumentation, additional landscape detail, proposed architectural schemes, architectural elevations, and visual simulations from Highway 101.

Implementation of the above mitigation measures will reduce impacts resulting from the visual appearance of the built environment to a **less than significant** level by requiring landscaping concepts and design concepts that are consistent with the character of the community, Gateway Overlay designation and city policy.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impact to Scenic Resources and Visual Character

Impact 3.1-5 Project buildout will incrementally add to ongoing changes to Greenfield's aesthetic and visual character. This is **a significant and unavoidable cumulative impact**.

This impact was previously identified in the City of Greenfield's General Plan EIR. That document found that despite policies to improve design standards and quality of the built environment, changes resulting from the General Plan will result in an unavoidable change to the existing aesthetics and agricultural character of the City. The South End SOI EIR, as an extension of the City's planning area and sphere of influence, will also contribute incrementally to this change on a city-wide basis. Consistent with the findings of the General Plan EIR, the Conservation, Recreation and Open Space Element and related polices and programs address visual resources and urban design. Despite these regulations, the amount of change, pace of change will be significantly altered by General Plan buildout. As a large project being added to the ultimate General Plan boundary, the South End SOI project is considered a significant contributor to that city-wide impact.

Nighttime Ambient Light and Glare

Impact 3.1-6 Nighttime ambient light and glare will be increased by new residential, industrial and highway commercial development in the area of the project. This is a **less than significant** impact.

The project, combined with other cumulative projects, will incrementally increase ambient light and glare in an area generally devoid of light sources. Commercial and industrial lighting is often more intense than residential light sources, and all new light sources contribute to what is described as "skyglow". Implementation of mitigation measure **MM 3.1-3** would reduce the effects of nighttime ambient light and glare on a project specific level. At a cumulative level, skyglow city-wide may be increasing. However, there is no evidence that this increase is causing a particular impact or triggering a specific significance threshold. Therefore, the project's contribution to cumulative light and glare impacts is considered **less than significant**.

REFERENCES/DOCUMENTATION

City of Greenfield. *Greenfield General Plan*. October 2005.

County of Monterey. *Central Salinas Valley Area Plan*. 1987.

City of Greenfield. *City of Greenfield Zoning Ordinance*. 1981 as updated.

Coats Consulting and the Law Offices of Aaron P. Johnson. Project information from applicants.

Monterey County. *Monterey County General Plan*. 1982.

Site Visit. Pacific Municipal Consultants. October 18, 2005.

California Scenic Highway System (from webpage at http://www.dot.ca.gov/hq/LandArch/Scenic) California Office of State Landscape Architecture.

This Page Intentionally Left Blank

Section 3.2
Agricultural Resources

This section of the EIR describes the agricultural resources in the project area and the potential effects on the existing agriculture within the project site. Sources utilized in this section to assess impacts of the project include the City Greenfield General Plan, the California Department of Conservation Farmland Conversion Reports, the California Department of Conservation Important Farmlands Map, and the Soil Survey of Monterey County, California. In the case of this specific proposal, the Williamson Act exchange program is a major component of the project. It is anticipated that this section will serve the needs of the EIR and will also serve as a part of the application for a Williamson Act Exchange Program as outlined in this document.

3.2.1 EXISTING SETTING

FARMLAND CLASSIFICATIONS

The systems used by the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), to determine a soil's agricultural productivity include the Land Capability Classification and the Storie Index Rating System. The "prime" soil classifications of both systems indicate the absence of soil limitations, which if present, would require the application of management techniques (e.g., drainage, leveling, special fertilizing practices) to enhance production.

Land Capability Classification

The USDA Land Capability Classification (LCC) indicates the suitability of soils for most kind of crops. The Land Capability Classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive land forming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receive the highest rating (Class I). Specific subclasses are also utilized to further characterize soils. A general description of soil classification, as defined by the NRCS, is provided in **Table 3.2-1**.

TABLE 3.2-1
LAND CAPABILITY CLASSIFICATION

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

Source: *U.S. Department of Agriculture, Natural Resources Conservation Service, 2003. National Soil Survey Handbook, title 430-VI. [Online] Available: http://soils.usda.gov/technical/handbook/.*

Storie Index Rating System

The Storie Index Rating system ranks soil characteristics according to their suitability for agriculture from Grade 1 soils (80 to 100 rating), which have few or no limitations for agricultural production to Grade 6 soils (less than 10), which are not suitable for agriculture. Under this system, soils deemed less than prime can function as prime soils when limitations such as poor drainage, slopes, or soil nutrient deficiencies are partially or entirely removed. The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided below in **Table 3.2-2**.

TABLE 3.2-2
STORIE INDEX RATING SYSTEM

Grade	Index Rating	Definition
1 – Excellent	80 through 100	Soils are well suited to intensive use for growing irrigated crops that are climatically suited to the region.
2 – Good	60 through 79	Soils are good agricultural soils, although they may not be so desirable as Grade 1 because of moderately coarse, coarse, or gravelly surface soil texture; somewhat less permeable subsoil; lower plant available water holding capacity, fair fertility; less well drained conditions, or slight to moderate flood hazards, all acting separately or in combination.
3 – Fair	40 through 59	Soils are only fairly well suited to general agricultural use and are limited in their use because of moderate slopes; moderate soil depths; less permeable subsoil; fine, moderately fine or gravelly surface soil textures; poor drainage; moderate flood hazards; or fair to poor fertility levels, all acting alone or in combination.
4 – Poor	20 through 39	Soils are poorly suited. They are severely limited in their agricultural potential because of shallow soil depths; less permeable subsoil; steeper slope; or more clayey or gravelly surface soil textures than Grade 3 soils, as well as poor drainage; greater flood hazards; hummocky micro-relief; salinity; or fair to poor fertility levels, all acting alone or in combination.
5 – Very Poor	10 through 19	Soils are very poorly suited for agriculture, are seldom cultivated and are more commonly used for range, pasture, or woodland.
6 – Non-agricultural	Less than 10	Soils are not suited for agriculture at all due to very severe to extreme physical limitations, or because of urbanization.

Source: USDA Soil Conservation Service, Soil Survey of Sacramento County, April 1993.

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the U.S. Department of Agriculture, Soil Conservation Service (USDA-SCS). The intent of the USDA-SCS was to produce agricultural resource maps based on soil quality and land use across the nation. As part of the nationwide agricultural land use mapping effort, the USDA-SCS developed a series of definitions known as Land Inventory and Monitoring (LIM) criteria. The LIM criteria classified the land's suitability for agricultural production; suitability included both the physical and chemical characteristics of soils and the actual land use. Important Farmland Maps are derived from the USDA-SCS soil survey maps using the LIM criteria.

Since 1980, the State of California has assisted the USDA-SCS with completing its mapping in the state. The FMMP was created in the State Department of Conservation (DOC) to continue the mapping activity with a greater level of detail. The DOC applied a greater level of detail by modifying the LIM criteria for use in California. The LIM criteria in

California utilize the SCS and Storie Index Rating systems, but also consider physical conditions such as a dependable water supply for agricultural production, soil temperature range, depth of the ground water table, flooding potential, rock fragment content, and rooting depth.

Important Farmland Maps for California are compiled using the modified LIM criteria, as described above, and current land use information. The minimum mapping unit is 10 acres unless otherwise specified. Units of land smaller than 10 acres are incorporated into the surrounding classification. The Important Farmland Maps identify five agriculture-related categories: prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and grazing land. Each is summarized below, based on *A Guide to the Farmland Mapping and Monitoring Program* (2004), prepared by the Department of Conservation.

Prime Farmland

Prime farmland is considered land with the best combination of physical and chemical features able to sustain the long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been producing irrigated crops at some time during the four years prior to the mapping date.

Farmland of Statewide Importance

Farmland of statewide importance is considered land similar to prime farmland, but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. The land must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date.

Unique Farmland

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

Farmland of Local Importance

Farmland of local importance is land of importance to the local agricultural economy, as determined by each County's Board of Supervisors and a local advisory committee. The Board of Supervisors determined that there would be no Farmland of Local Importance for Monterey County. (California Farmland Conversion Report 2000-2002).

Grazing Land

Grazing Land is land on which the existing vegetation is suited to the grazing of livestock. The California Cattleman's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities developed this category. The minimum mapping unit is set at 40 acres.

Urban and Built-Up Land

Urban and built-up land is considered land occupied with structures with a building density of at least one unit to one-half acre. Uses may include, but are not limited to, residential, industrial, commercial, construction, institutional, public administration purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are mapped as part of this unit, if they are part of a surrounding urban area.

Other Land

Other Land is land that is not included in any other mapping category. Some typical examples of other land include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry or aquaculture facilities; strip mines borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is also mapped as other land.

Water (W)

Perennial water bodies with an extent of at least 40 acres categorized as water.

REGIONAL SETTING

Contribution of Agriculture to the Monterey County Economy

Monterey County ranked third in agricultural production (not including timber) out of fifty-eight counties in the State in 2002 and remained the same ranking third in agricultural production in 2003 with gross revenues from the sales of agricultural commodities totaling at $3.28 billion (California Agricultural Statistics Service, 2003).

In 2003, the leading agricultural resources included lettuce (head and romaine), salad greens, strawberries and broccoli, as seen in **Table 3.2-3**.

TABLE 3.2-3
LEADING COMMODITIES FOR GROSS VALUE OF AGRICULTURAL PRODUCTS IN MONTEREY COUNTY, 2003

Commodities	Value
Lettuce, Head	$489,306,000
Lettuce, Romaine	$445,240,000
Salad Greens	$437,622,000
Strawberries	$250,395,000
Broccoli	$197,587,000
Grapes, Wine	$160,219,000
Vegetables, Crops	$125,596,000
Lettuce, Leaf	$97,828,000
Cauliflower	$89,641,000
Spinach	$88,886,000

Source: California Agricultural Statistics Service: Summary of County Agricultural Commissioners' Reports, 2002-2003.

MONTEREY COUNTY FARMLAND CONVERSION

One of the basic underlying premises of agricultural conversion is that the proximity of agricultural land to urban uses increases the monetary value of the agricultural land either directly through formal purchase offers, indirectly through recent sales in the vicinity, or through the extension of utilities and other urban infrastructure into productive agricultural areas. The County Assessor's Office provides evidence to this premise by assessing property values higher when adjacent to the urban fringe (U.S. Census Bureau, 2000).

According to the California Department of Conservation, 2002 Farmland Conversion Reports, there has been an increase in the acreage of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland and Farmland of Local Importance in Monterey County between the years 2000 and 2002. This increase can be explained by the conversion of land historically used for livestock grazing to Prime and Unique Farmlands. This conversion is largely due to the creation of irrigated vineyards and row crops being brought into production. The total agricultural acreages by type for Monterey County are presented in **Table 3.2-4**.

TABLE 3.2-4
ACRES OF IMPORTANT FARMLANDS – MONTEREY COUNTY (2000-2002)

Land use Category	Total Acreage	
	2000	2002
Prime Farmland	169,255	169,338
Farmland of Statewide Importance	45,877	46,007
Unique Farmland	24,142	25,465
Important Farmland Subtotal	239,274	240,810
Grazing Land	1,060,663	1,057,491
Agricultural Land Total	1,299,937	1,298,301

Source: California Department of Conservation, Farmland Conversion Reports 2002.

CITY OF GREENFIELD FARMLAND CONVERSION

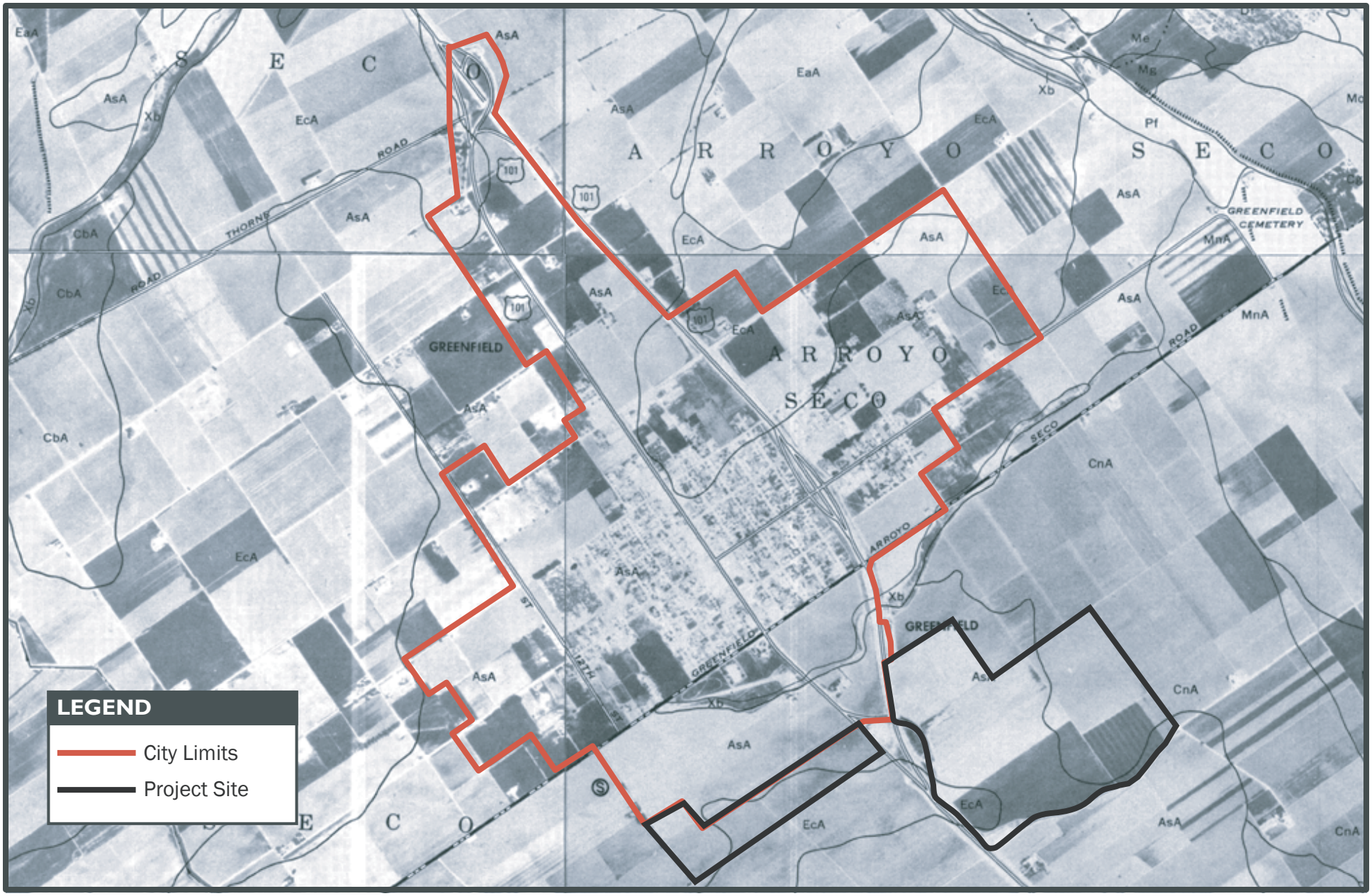
The City of Greenfield has grown considerably since its incorporation in 1947, resulting in the conversion of a large amount of farmland to urban uses. When originally incorporated, Greenfield was known as the Clark Colony and consisted of 289 acres; by 1988 the City had annexed an additional 442 acres resulting in a total City size of 731 acres. Per the 2005 General Plan, the City is proposed to have a growth boundary of 1380 acres without the inclusion of the South End SOI Project.

PROJECT SITE CHARACTERISTICS

Crop Production and Soil Conditions

The four parcels that comprise that project site are primarily used for agricultural purposes including row crops. According to the Soil Survey of Monterey County, California, native soil in the vicinity of the site is Arroyo Seco Gravelly Sandy Loam, Elder Loam Gravelly substratum and Cropley Silty Clay. The majority of the project site consists of Arroyo Seco Gravelly Sandy Loam. West of Highway 101, Elder Loam is prominent on the project site. East of Highway 101, a small portion of the project site, along the eastern border, contains Cropley Silty Clay soil. This arrangement of soils allows for the areas east of Highway 101 in the project site to have optimal crop production, while the areas west of Highway 101 have less production potential. **Figure 3.2-1** Project Site Soil Types illustrates the division of soil types within the project site area.

This Page Intentionally Left Blank



0 0.5 1

Scale in Miles

N

Figure 3.2-1
Soil Types

PMC

T:\City of Greenfield\Graphic Development\Figures\Figure 3.2-1ai, January 2006

This Page Intentionally Left Blank

Arroyo Seco Gravelly Sandy Loam

Arroyo Seco Gravelly Sandy Loam has an average slope of less than two percent. The available water holding capacity is about four to six inches and is reduced somewhat by the coarse fragments (angular granitic or schistose gravel or cobble stones), especially in the underlying material. The soil is mostly used for irrigated row and field crops. The soil also can be used for orchards and vineyards.

Elder Loam Gravelly substratum

Elder Loam Gravelly substratum has an average slope of two percent or less. This soil is on alluvial fans or plains. The gravel content of the soil ranges from zero to five percent, and depth of gravel or cobblestones is 40 to 50 inches. Permeability is moderate above the very rapidly permeable underlying material and the available water capacity is 5.5 to 9 inches. Roots can penetrate to a depth of 40 to 50 inches. Runoff is slow and the erosion hazard is slight. This soil is use for irrigated field and row crops, orchards and some vineyards.

Cropley Silty Clay

This soil is located on alluvial fans, on flood plains and in basins. Cropley Silty Clay has an average slope of zero to two percent. Runoff is categorized as slow and the erosion hazards are considered to be minimal. Permeability for Cropley soils is generally slow, and the available water capacity is eight to ten inches. Roots penetrate to a depth of more than 60 inches. The soil is used mostly for irrigated row and field crops, especially celery and lettuce.

IMPORTANT FARMLAND MAP

According to the Monterey County Important Farmland Map made available by the California Department of Conservation Division of Land Resource Protection, the approximately 267 acre project site consists entirely of Prime Farmland and does not contain any acreage of Urban and Built-Up Land, Farmland of Statewide Importance, Unique Farmland or Grazing Lands.

According to the Natural Resources Conservation Service (NRCS) Land Capability Class Systems, a major portion of the project site is Elder Gravelly Loam with 0 to 2 percent slopes, which is a Class II soil with a Storie Index rating of "90" and is, therefore, considered prime agricultural soil. The remainder of the site is Cropley Silty Clay soils with zero to two percent slopes, which is a Class II soil with a Storie Index rating of "51" and Arroyo Seco Gravelly Loam with zero to two percent slopes, which is a Class III soil with a Storie Index rating of "63." These two soil types have minimal and slight erosional hazards

and low shrink-swell potential. The Cropley soils have generally slow permeability whereas the Arroyo Seco soil has moderately rapid permeability with good drainage.

3.2.2 REGULATORY SETTING

STATE

Williamson Act

The California Land Conservation Act (Williamson Act) was enacted by the State Legislature in 1965 as a means of conserving California's prime agricultural lands from urbanization. The Williamson Act involves voluntary contracts between landowners and a city or county in which they agree to retain their lands in agriculture or other open space uses for a minimum of ten years. In return for entering into this contract, the landowners receive property tax relief on the lands under contract. This relief is provided through the assessment of the lands based upon their income-producing value rather than their market value, which may be considerably higher. The contracts have a ten-year term, which are automatically renewed each year on a common anniversary date of January 1 unless they are cancelled or a notice of non-renewal is given. If either party to a contract gives notice of non-renewal, the non-renewal process begins on the following anniversary with nine years remaining. During the remaining term of the contract after notice of non-renewal has been given, the property taxes increase gradually according to a formula that eventually brings them up to the same level as non-Williamson Act lands. Currently, approximately 70 percent of the state's prime agricultural land is protected under this Act. Prime farmland under the Williamson Act includes land that qualifies as Class I and II in the SCS classification of land that qualifies for rating 80 to 100 in the Storie Index Rating.

The proposed project contains one parcel that is subject to a Williamson Act contract (Franscioni, APN 221-011-017). The owner of the parcel is pursuing a Williamson Act Exchange for 121 acres of the 171 acres. In exchange for taking the 121 acres of land out of the Williamson Act contract, the project applicant for the parcel has agreed to place the 50 easternmost acres in a conservation easement and place several off-site properties in a permanent agricultural easement, as described below.

Williamson Act Exchange Program

The Williamson Act easement exchange (government Code Section 51256,et seq., effective 1/1/1998) provides a voluntary rescission process for local entities and landowners to cancel a Williamson Act contract and simultaneously dedicate a permanent Agricultural Conservation Easement on other land. A governing board or council must make specified findings in order to cancel a contract. The appraised value of the easement must be greater or equal that the cancellation fee required to cancel the contract. The easement land must be of equal size or larger than the Williamson Act contracted land. Williamson Act

exchanges must meet the criteria established under the California Farmland Conservancy Program, the Department's land conservation easement program.

The applicants on the proposed project are pursuing a Williamson Act Exchange for 121 acres of the 171 acres acre Franscioni Parcel. The Monterey County Agricultural and Historical Land Conservancy is cooperating with the applicant (TMV Lands) to accept a grant of an agricultural conservation easement for the following properties after the recession of a Williamson Act Contract for the 121 acres, pursuant to the Williamson Act Exchange Program. (government Code Section 51256,et seq.):

1. The remaining 50 acres of the parcel (APN 221-011-017) located on the eastern portion of the parcel not proposed for development, adjacent to the project site.
2. Approximately 66.09 acres located near Chualar known as the Somavia Road Ranch (APN 137-041-034; and
3. Approximately 317.09 acres known as Redding Ranch located just south of Greenfield (APN 221-011-040)

Agriculture Preservation Contracts

Government Code Section 51256 requires that the proposed agricultural conservation easement be consistent with the criteria set forth in Public Resource Code Section 10251, which states:

1. The proposed conservation parcel is large enough and will continue to be used for commercial agricultural use;
2. The area possesses necessary market, infrastructure, and agricultural support services and surrounding parcel sizes and land uses will support long-term commercial agricultural production;
3. The applicable county or city general plan demonstrates a long-term commitment to agricultural land conservation. This commitment shall be reflected in the goals, objectives, policies and implementation measures of the plan, as these relate to the area of the county or city where the easement acquisition is proposed; and
4. Without conservation, the land proposed for protection is likely to be converted to nonagricultural use in the foreseeable future.

Eligibility and Selection Criteria

The proposed agricultural conservation easement is also required to satisfy the selection criteria in Public Resource Section 10252:

1. Overall value and quality of agricultural land on land capability, farmland mapping and monitoring program definitions, productivity indices, and other soil, climate and vegetative factors;
2. The proposal meets multiple natural resource conservation objectives, including but not limited to, wetland preservation, wildlife habitat conservation, and scenic open space preservation;
3. The city or county demonstrates a long term commitment to agricultural land and conservation as demonstrated by the following:
    a. The general plan and related land use policies of the city or county.
    b. Policies of the local agency formation commission.
    c. California Environmental Quality Act policies and procedures.
    d. The use of active local agricultural land conservancies or trusts.
    e. The use of an effective right-to-farm ordinance.
    f. Applied strategies for economic support and enhancement or agricultural enterprise, including water policies, public education, marketing support, and consumer and recreational incentives.
    g. Other relevant policies and programs.
4. The land proposed for protection is within the county or city designated agricultural preserve;
5. The land proposed for conservation is within two miles of the exterior boundary of the sphere of influence of a city as established by LAFCO;
6. Applicant demonstrates fiscal and technical capability to effectively carry out the proposal. Technical capability may be demonstrated by agricultural land conservation expertise on the governing board or staff of the applicant or through a partnership with an organization that has expertise;
7. The proposal demonstrates a coordinated approach among affected landowners, local governments and nonprofit organizations. If other entities are affected, there is a written support from those entities for the proposal and a willingness to cooperate. The support of neighboring landowners who are not involved in the proposal shall be considered;
8. The conservation of land supports long-term private stewardship and continued agricultural production in the region;
9. Proposal demonstrates an innovative approach to agricultural land conservation with a potential for wide application in the state;
10. The amount of matching funds and in-kind services contributed by local governments and other sources toward the acquisition of the fee title or agricultural easement.

11. The price of the proposed acquisition is cost effective in comparison to the fair market value.
12. Other relevant considerations as established by the Director.

According to guidelines within the Williamson Act Exchange Program, the land proposed to be placed under an agricultural conservation easement should be of equal or greater size to the contract being rescinded and is equally or more suitable for agricultural use than the land subject to the contract to be rescinded. The value of the proposed agricultural conservation easement as determined pursuant to Public Resources Code 102060 is equal to or greater that 12.5 percent of the cancellation valuation of the land subject to the contract to be rescinded pursuant to Government Section 51283. The cancellation fee will be the amount equal to 12.5 percent of the cancellation valuation of the property. The easement parcel should be sufficient to support commercial agriculture. The easement parcel should be located within an agricultural preserve designated by a local government, and be located within two miles of the exterior boundary of the sphere of influence of a city as established by LAFCO. The easement value and the cancellation valuation shall be determined 30 days before the approval of the city or county of an agreement pursuant to this section.

LOCAL

Cortese-Knox Local Government Reorganization Acts

The Cortese-Knox Local Government Reorganization Acts of 1985 and 2000 govern the incorporation of new cities and city boundaries. The 1985 Act gives authority to the LAFCO in each county to consider proposals for incorporation and annexations within the County. The Act also established six criteria for determining the quality of agricultural lands. **Table 3.2-5** provides an analysis of the proposed project relative to the six criteria for evaluating agricultural lands.

TABLE 3.2-5
CORTESE-KNOX PRIME AGRICULTURAL LAND ANALYSIS

Cortese-Knox Criteria	Discussion
Does the land qualify for rating as Class I or Class II in the Natural Resources Conservation Service land use classification system?	Yes – The project site contains three types of the soils, Arroyo Seco Gravelly Sandy Loam, Elder Loam Gravelly substratum and Cropley Silty Clay. Both the Cropley soils and the Elder soils have a rating of Class II soils. The remaining Arroyo Seco soil has a rating of Class III soil.
Does the land qualify for rating 80 through 100 Storie Index rating?	Yes – The portion of the site containing Elder Loam soil, which received a Class II rating, has a Storie Index rating of 90. The Cropley soils have a storie index rating of 51 and the Arroyo Seco soils have a storie index rating of 63.
Does the land support livestock used for the production of food and which has an annual carry capacity of at least one animal per acre?	No – Land in the project area is not supporting livestock.
Is the land planted with fruit or nut-bearing trees, vines, bushes, or crops which have a non-bearing period of less than five years and which will return on an annual basis not less than $200 per acre?	Yes – Portions of the project are used to grow vine bushes or crops with a non-bearing period of less than five years that return an annual basis of more $200.
Has the land returned from production an annual gross value of not less than $200 per acre for three of the last five years?	Yes – Active row-crop cultivation occurs on a majority of the project area, and income from this operation likely exceeds $200 per acre per year for the last five years
Has the land been used to maintain livestock for commercial purposes?	No – Land in the project area is not supporting livestock.

LAFCO Policy Analysis - Standards for the Evaluation

LAFCO of Monterey County has adopted policies to guide the agency in its decision-making process, as identified in the *Standards for the Evaluation of Proposals*. According to this document, the underlying purpose of Monterey County LAFCO is to discourage urban sprawl and encourage the orderly formation and development of local agencies. **Table 3.2-6** summarizes relevant LAFCO policies and provides analysis of the proposed project.

TABLE 3.2-6
LAFCO POLICY ANALYSIS

Policy Summary	Discussion
Open Space and Agricultural Land	
In determining whether a proposal affects prime agricultural land, LAFCO shall apply the definition established under Cortese-Knox (Government Code §56064).	According to Cortese-Knox criteria, the project area is prime agricultural land as portions of the project site consists of Class II soils, and have a Storie Index rating of "90" and active row crops generate annual income in excess of $200 acre/year.
LAFCO shall consider the agricultural significance of the proposal area (soil, climate, and water factors).	A portion of the site consists of Class II soils with a Storie Index rating of "90", indicating prime agricultural soils; the remainder of the site consists of Class III soils with a Storie Index rating of "63" and Class II soils with a Storie Index ration of "51", indicating comparatively low agricultural land value. The California Department of Conservation *Important Farmland Inventory Map* designates the entire annexation area as Prime Farmland.
LAFCO shall consider the use value of the proposal area and the surrounding parcels.	The proposed annexation area and majority of surrounding parcels are in active row crop cultivation. The proposed project is located adjacent to U.S. Highway 101.
LAFCO shall determine if the area is designated for agricultural preservation.	A portion of the project site is currently under Williamson Act Contract, designated for agricultural preservation. The Williamson Act Exchange Program will be used to transfer the current conservation agreement to other parcels as outlined on page 3.2-12.
LAFCO shall consider whether public facilities would be extended through or adjacent to other agricultural land.	No, there will not be public facilities extended through or adjacent to other agricultural use, however there is a frontage road that extends from the southern portion of the City through the northern portion of the project site.
LAFCO shall consider whether the area is adjacent to or surrounded by existing urban development.	The project area is immediately south of the Greenfield City Limit, and urban uses exist north of the project area. Adjacent to the northern border of the project site between Elm Avenue and the project site is agricultural land that is slated to remain undeveloped (for now).

LAFCO shall consider whether surrounding parcels may be expected to develop within five years.	The project site is located adjacent to the southern boundary of the City of Greenfield SOI. The proposed project is included in the City of Greenfield's formal SOI amendment, along with parcels to the west of the project site. Adjacent properties to the east and west of the project site would be placed within the city's Future Planning Area. Parcels south of the project site would remain outside of the City's recognized SOI. Development on adjacent parcels within the Future Planning Area would be contingent on future growth patterns of the City, at this time there is no anticipated development on adjacent parcels.
LAFCO shall consider whether natural or man-made barriers would buffer the proposal area from existing urban uses.	The proposed project would include buffers separating the proposed residential, industrial and highway commercial uses from existing agricultural uses that surround the project site.
LAFCO will encourage proposals that use reclaimed wastewater, minimize nitrate contamination, and provide beneficial use of storm water.	There are no specific project proposals at this point, however this issue is addressed by mitigation measures in this EIR.

City of Greenfield General Plan

The guiding principles of the way agricultural preservation and conversion issues are addressed throughout the City are included in the Conservation, Recreation and Open Space Element of the City of Greenfield General Plan. The General Plan agricultural policies that are applicable to the proposed project will be used to evaluate the consistency of the project with the standards as required by CEQA. These policies include:

Land Use Element

Policy 2.6.1
Promote compact city growth and phased extension of urban services to discourage sprawl and encourage development that improves agriculture and vital public services.

Policy 2.6.2
Preserve agricultural land and open space around the city to inhibit sprawl and maintain the rural community character of Greenfield.

Policy 2.6.3
Land designated on the Land Use Map as "Residential Reserve" and in agricultural production shall not be converted to residential uses unless the specific findings are made.

Policy 2.6.4
Protect rural views through development regulations, landscape plans, and sensitive location of buildings and public facilities.

Policy 2.6.5
Utilize the Artisan Agriculture/Visitor Serving land use designation as a tool to retain agriculture and viticulture within the City, maintain the City's agrarian character, create jobs, and to serve as a transitional land use between urban areas and intensive agriculture.

Policy 2.6.6
Promote agritourism, the local wine industry and capitalize on the established wine road as an economic opportunity.

Program 2.6.A
Develop and adopt local standards for the conversion of agricultural land or changes in the designation of agriculturally-designated lands.

Program 2.6.B
Adopt annexation policies consistent with the General Plan policies to guide the timing of growth and expansion within the Planning Area.

Program 2.6.C
Land designated on the Land Use Map as "Residential Reserve" and in agricultural production shall not be converted to residential uses until the following findings are made: 1) that the development of the land will contribute to the establishment of a stable urban limit, and 2) that 80% of the land designated in the City for residential uses has been developed or has been approved for such development.

Program 2.6.D
Establish a permanent 200-foot agricultural buffer along the west side of 2nd Street throughout the Planning Area for all future development.

Program 2.6.E
Within fifteen (15) years from the adoption of the General Plan, update and revise the City's Sphere of Influence Study.

Program 2.6.F
Produce and release promotional materials in consultation with the Chamber of Commerce or others specific to the winery, tourism and agritourism opportunities in Greenfield.

Conservation, Recreation and Open Space Element

Policy 7.1.1 Promote the phased transition from agricultural operations to urban uses within the City's Planning Area.

Policy 7.1.2 Minimize conflicts and negative impacts resulting from development that occurs in close proximity to agricultural uses.

Policy 7.1.4 Incorporate parks, open space, and trails between urban and agricultural uses to provide buffering and transition between uses.

Program 7.1.C New development shall provide adequate setbacks for non-agricultural structures adjacent to cultivated agriculture.

3.2.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Standards of significance were based on existing laws and regulations affecting agricultural resources and impacts generally considered to be significant (Appendix G, State CEQA Guidelines).

Only those thresholds of significance that are applicable to the proposed project are presented below. Impacts on agricultural resources were considered significant if implementation of the project would result in any of the following:

1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resource Agency, to non-agricultural use;
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract;
3. Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use; or
4. Result in land use conflicts specific to the urban/agriculture interface.

METHODOLOGY

Evaluation of potential agricultural were based on review of the City of Greenfield General Plan, field review of the project site and surrounding area, and review of documentation from applicable local, state, and federal agencies. The agriculture analysis is based on information gathered from the City of Greenfield Land Use and Conservation, Recreation and Open Space Elements of the General Plan, the California Department of Conservation Farmland Conversion Reports (2000 to 2002, published in 2004), the California Department of Conservation Important Farmlands Map, consultation with California Department of Conservation, Monterey County Assessor Office and the Soil Survey of Monterey County, California (1978).

IMPACTS AND MITIGATION MEASURES

Conversion of Prime Farmland

Impact 3.2-1 The South End SOI project will result in the eventual conversion of approximately 217 acres of Prime Farmland to urban uses. This impact is a **significant and unavoidable** impact of the proposal.

In accordance with criteria provided in the Cortese-Knox Local Government Reorganization Act, and for the purposes of this analysis, the project site area is considered prime agricultural land. According to the Natural Resources Conservation Service (NRCS) Land Capability Class Systems, a significant portion of the project site is Elder Gravelly Loam with 0 to 2 percent slopes, which is a Class II soil with a Storie Index rating of "90" and is, therefore, considered prime agricultural soil. The remainder of the site is Cropley Silty Clay soils with zero to two percent slopes, which is a Class II soil with a Storie Index rating of "51" and Arroyo Seco Gravelly Loam with zero to two percent slopes, which is a Class III soil with a Storie Index rating of "63."

The Arroyo Seco soil has moderately rapid permeability with good drainage, which would typically indicates that the soil is not Prime Farmland. However, agricultural land is considered "prime" if it meets any one of six criteria, identified in **Table 3.2-5.** The land meets three criteria addressing including annual gross value from production of least $200 per acre over the previous five years, a Class I or Class II rating in the Natural Resources Conservation Service Land Capability Class System and a Storie Index rating of between 80 and 100 on a significant portion of the site. The designation of the entire project area as Prime Farmland is further supported by the California Department of Conservation, Farmland Mapping and Monitoring Program *Important Farmland Inventory Map*, which can be found in the Greenfield General Plan, on which the project area is identified as Prime Farmland.

The City of Greenfield has recently adopted a General Plan that responds to projected population growth over the next 20 years, but plans for that growth based on a compact land use pattern. All growth areas are contiguous to the existing City limits, and the land use plan attempts to create logical planning boundaries that expand upon the existing land use pattern of the City. As a community surrounded by prime farmland there are few options available in terms of the preferred "direction" of growth based on the quality of farmland. The City has therefore planned a land use scenario that restricts growth beyond Second Street to the east and Thorne Road to the north.

With prime farmland surrounding the existing City of Greenfield, the City recognizes that any growth beyond the existing City limits will result in significant impacts relative to conversion. However, the City has attempted to minimize those impacts through the

efficiency of the land use pattern proposed, as well as the Goals, Policies and Programs of the Land Use and Conservation, Recreation and Open Space Elements that promote the long-term viability of agricultural within and adjacent to the City. Of the land in the City's Planning Area subject to future conversion, it should be noted that approximately half of that acreage is either within the less intensive and "ag friendly" AAVS designation, or is subject to the City's Residential Reserve overlay. In addition, this area includes the Yanks Air Museum property (previously approved for development by the County), as well as the area just north of the current proposal that, along with the proposed project, may take many years to market and develop. The City relies on the value of the AAVS designation and compact development patterns, rather than agricultural mitigation fees or land set-aside programs, to manage land conversion.

The South End SOI project clearly adds additional farmland acreage to the City that will be converted. There are, however, other mitigating circumstances specific to this project. First, the applicants have voluntarily entered into a Williamson Act exchange program to place approximately 433 acres of land, including 50 acres within the project boundaries, into conservation status under the provisions of the exchange program (See Impact 3.2.3 below).

Secondly, the City of Greenfield is voluntarily processing a General Plan Amendment to remove approximately 172 acres of prime farmland from the General Plan boundaries. Although this separate action does not directly affect the South End SOI project, it does help to mitigate the cumulative total of acreage planned for conversion within the City's planning boundaries (see Section 4.9, Land Use).

Regardless of these mitigating circumstances, the City acknowledges that the project area itself would result in the physical conversion of prime farmland, and that such conversion would be an unavoidable environmental consequence. Although the City has incorporated a series of planning measures into the General Plan itself that recognize agriculture as an important resource, this impact is considered a **significant and unavoidable** consequence of the project. (See also Cumulative Impacts below).

Agricultural-Urban Land Use Conflicts

Impact 3.2-2 The proposed project would place urban land uses adjacent to agricultural uses, which may impair agricultural production and result in land use compatibility conflicts. This is considered a **potentially significant** impact.

Development of residential uses on the Scheid West parcel in close proximity to agricultural operations could result in compatibility impacts, encroachment, and nuisance complaints due to noise, dust, and pesticide/fertilizer application inherent in most

agricultural operations. The further conversion of agricultural land to non-agricultural use may also result in secondary effects such increases in property values, which in turn creates pressure to convert farmland to non-agricultural uses.

West of Highway 101, the 46-acre Scheid West parcel would create an urban/ag edge on the southern boundary of the City. The parcels south and west of the Scheid West parcel are currently active vineyard. East of Highway 101, the proposed Highway Commercial and Heavy Industrial land uses would also abut active agriculture and active row crops. These uses are less sensitive to adjacent agricultural uses, although there is still a potential that the proposed development of the highway commercial and industrial would result in land use conflicts.

The City of Greenfield General Plan EIR (2005) outlines a number of methods for minimizing potential land use conflicts along the urban/agriculture interface to a less than significant level, including the use of land use buffers and implementation of a Right to Farm Ordinance to protect existing farming operations. The City has established a 200-foot buffer requirement on the east side of the City; however, on the south and west sides, land use buffers are more flexible.

Consistent with the General Plan EIR, the following mitigation shall be required.

Mitigation Measures

MM 3.2.2a The project applicant shall demonstrate adequate land use separation on all site plans and applications for subdivision. Residential subdivisions shall demonstrate a 100-foot minimum land use buffer between the edge of all active agricultural fields or vineyards and the nearest residential property lines. Non-residential setbacks shall demonstrate a 100-foot minimum land use buffer between the edge of active fields or vineyards and the nearest building surface. Distances comprising the buffer may include roadway rights of way, easements, landscaping, and other uninhabited uses, and may be reduced if it can be demonstrated that a narrower distance will provide effective separation. Ultimate design and consideration of setbacks will be subject to review and approval by the City of Greenfield.

MM 3.2.2b Consistent with notification required by Monterey County as a component of the Right-to-Farm Ordinance, the applicant shall record a Right-to-Farm notification statement to run with the title as disclosure and notice in deeds at the time of transfer or sale of all properties within 2,000 feet of agricultural land, agricultural operations or agricultural processing facilities or operations. The statement shall inform any future

property owners of the continuation of agricultural activities in the area and shall disclose the potential effects of agricultural activities on adjacent land uses to future project residents.

Implementation of the above mitigation measures, along with **MM 3.9-3a-c** of Section 3.9 Land Use**,** shall ensure that the potential for land use conflict is reduced to a **less than significant** level by requiring land use buffers between future development and existing uses and by ensuring that new property owners near agricultural land are properly notified of adjacent agricultural practices.

Agricultural Zoning and Williamson Act Contracts

Impact 3.2.3 The development of the proposed project site would be in conflict with an existing Williamson Act contract for the southeastern portion of the project site. This is considered a **significant impact** of the proposal.

The southern portion of the project site, located on a 171-acre parcel (APN 221-011-017) is under a current Williamson Act contract. The project applicant for the parcel, TMV lands, have filed "Notices of Nonrenewal" for the parcel, and is in the process of rescinding the Williamson Act contract and are pursuing a Williamson Act Exchange per Government Code Section 51256, et. seq.

The Easement Exchange program allows a property owner who has property under a current Williamson Act contract to rescind the contract, in exchange for dedication of a permanent agricultural easement on different piece of land. The easement must be of equal or greater size and value and the cancelled Williamson Act land (see Existing Setting for exchange criteria).

As a result of the Easement Exchange program the project applicant will be required to institute the final exchange program per, requiring the placement of selected property into permanent agricultural easement in exchange for the project site. Based upon City's staff's review of the proposed exchange, the proposal appears to meet the criteria for a successful exchange of lands, and that the necessary findings can be made.

The Monterey County Agricultural and Historical Land Conservancy, Inc. a California non-profit corporation, has agreed to cooperate with the project applicant in facilitating the Easement Exchange by accepting the dedication of the permanent agricultural easements above. The agreement requires the project applicant must prepare and process an application with the City of Greenfield, County of Monterey, Monterey County LAFCO, the California Department of Conservation and any other affected governmental agency with approval authority over Entitlements and the Exchange program. These and numerous

other stakeholders are involved in the Williamson Act exchange program. **Table 3.2-7** outlines the requirements of selected agencies involved in the project.

TABLE 3.2-7
WILLIAMSON ACT EXCHANGE AGENCY STAKEHOLDERS

Government Agency	Responsibility
City of Greenfield	The City of Greenfield City Council makes findings and approves/disapproves the exchange program based on criteria in Government Code Section 51282.
County of Monterey	The Monterey County Board of Supervisors makes findings and approves/disapproves the exchange program based on criteria in Government Code Section 51282
Monterey County LAFCO	LAFCO of Monterey County is responsible for the approval/denial/conditioning of the proposed Sphere of Influence Amendment for the proposed exchange of agricultural preservation land. LAFCO is also responsible for the approval/denial/conditioning of the proposed Sphere of Influence Amendment and annexation request by the City of Greenfield.
California Department of Conservation (Director)	The Department of Conservation must be notified when the County and/or City accepts the Williamson Act cancellation application as complete. Once the local entity makes the findings and approves the proposal, the resolution of approval, plus the supporting documentation, must be submitted to the Director of the Department of Conservation for review of the proposed land exchange.
California Resources Agency	A Williamson Act exchange shall obtain the approval of the Secretary of Resources for California.
Other Government Agencies	Approval of the exchange program by other agencies is required as indicated by the Director of the Department of Conservation.

In addition to the procedural steps listed above, the applicant must also obtain appropriate annexation approvals, CEQA approval, development agreements, zoning approval and entitlements for the 121-acre portion of the project site. The 121 acre portion of the project site that is currently under a Williamson Act contract would be compliant with the Williamson Act Easement Exchange program, following implementation of the following mitigation measure.

MM 3.2-3 Prior to the City's submittal to LAFCO of an application to annex the subject property (APN 221-011-017), and prior to approval of any development rights or permits on the property issued by the City, the project applicant shall demonstrate that the Williamson Act Exchange has been successfully completed. The applicant shall comply with the requirements set forth in the Department of Conservation's Williamson Act Exchange Program agreement and provide adequate evidence, as determined by the City Planning Manager, that the requirements of the agreement have been met

Implementation of **MM 3.2-3** would ensure compliance with the Easement Exchange program by requiring proof of the agreement between the applicant and the Monterey County Agricultural and Historical Land Conservancy, and proof of approval of the agreement from the California Department of Conservation. Proof of the agreement along with compliance of all the standards contained within the Williamson Act Easement Exchange program would reduce the potential impacts associated with the cancellation of the Williamson Act contract to a **less than significant impact.**

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Loss of Farmland

Impact 3.2-4 The proposed project would convert approximately 214 acres of agricultural land to urban uses. This loss would contribute to the cumulative loss of farmland in the region. This considered a **significant and unavoidable cumulative impact.**

Growth and development within the region will lead to the irreversible conversion of important farmland, on a scale of thousands of acres. Greenfield's General Plan will contribute to the cumulative conversion of farmland when analyzed as a regional issue. Despite the fact that the County of Monterey an experienced an 18 percent decrease in the amount of Prime Farmland converted to urban uses between 1997 and 2002, the proposed project would contribute to the on-going conversion of prime agricultural land in Monterey County to urbanized uses by converting approximately 214 acres. The proposed project would therefore contribute to the cumulative conversion of farmland to urban uses and would result in a **significant and unavoidable** impact. Although there is no feasible mitigation measure available to reduce the impact to a less than significant level, the following policy-level measure is provided to recognize the City's willingness to explore additional strategies toward the preservation of prime farmland:

MM 3.2-4 The project applicant(s) will contribute and participate toward any agriculture mitigation fee or similar mitigation program as adopted and recognized by the City of Greenfield in place at the time that building permits are pulled.

This impact remains **significant and unavoidable**.

REFERENCES/DOCUMENTATION

California Agricultural Statistics Service. 2002. *Census of Agriculture County Profile, 2002*.

California Department of Conservation. 2004. Farmland of Local Importance Definitions.

California Department Of Conservation, Division of Land Resource Protection. A Guide to Farmland Mapping and Monitoring Program. 2004.

California Department Of Conservation, Division of Land Resource Protection. California Farmland Conversion Report. 2000-2002.

California Agricultural Statistics Service. Summary Of Agricultural Commissioners' Reports. 2002.

City of Greenfield. General Plan and General Plan EIR. October 2005.

Monterey County. Monterey County General Plan. 1982.

Central Salinas Valley Area Plan. November 1987.

United States Department of Agriculture, Soil Conservation Service. Soil Survey of Monterey County, California. September 1978.

Williamson Act maps, Monterey County Planning Department.

U.S. Census Bureau. 2000. Census Data.

Geary Coats and the Law Offices of Aaron P. Johnson. Project information from applicants. 2005.

This Page Intentionally Left Blank

Section 3.3
Air Quality

This section of the EIR discusses the air quality impacts that may be associated with ultimate development of the proposed annexation area. The section includes the identification of pollutant standards, current air quality conditions, a quantitative assessment of air quality impacts and associated mitigation measures. Estimates of regional emissions generated by project traffic and on-site area sources were made using the URBEMIS-8.7 air quality-modeling program. The analysis is based upon the Air Quality Assessment conducted by Ambient Air Quality and Noise Consulting, contained within the Technical Appendices.

3.3.1 EXISTING SETTING

The proposed project is located in the North Central Coast Air Basin (NCCAB), which is under the jurisdiction of the Monterey Bay Unified Air Pollution Control District (MBUAPCD). Dispersion of air pollution in an area is determined by such natural factors as topography, meteorology, and climate, coupled with atmospheric stability.

TOPOGRAPHY

The NCCAB encompasses Santa Cruz, San Benito, and Monterey counties. The NCCAB is generally bounded by the Diablo Range to the northeast, which together with the southern portion of the Santa Cruz Mountains forms the Santa Clara Valley which extends into the northeastern tip of the NCCAB. Farther south, the Santa Clara Valley transitions into the San Benito Valley, which runs northwest-southeast and has the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley that extending from Salinas at the northwest end to King City at the southeast end. The northwest portion of the NCCAB is dominated by the Santa Cruz Mountains.

METEOROLOGY AND CLIMATE

The climate of the NCCAB is dominated by a semi-permanent high pressure cell over the Pacific Ocean. In the summer, the dominant high pressure cell results in persistent west and northwest winds across the majority of coastal California. As air descends in the Pacific high pressure cell, a stable temperature inversion is formed. As temperatures increase, the warmer air aloft expands, forcing the coastal layer of air to move onshore producing a moderate sea breeze over the coastal plains and valleys. Temperature inversions inhibit vertical air movement and often result in increased transport of air pollutants to inland receptor areas.

In the winter, when the high pressure cell is weakest and farthest south, the inversion associated with the Pacific high pressure cell is typically absent in the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito valleys in the NCCAB. The predominant offshore flow during this time of year tends to aid in pollutant

dispersal producing relatively healthful to moderate air quality throughout the majority of the region. Conditions during this time are often characterized by afternoon and evening land breezes and occasional rain storms. However, local inversions caused by the cooling of air close to the ground can form in some areas during the evening and early morning hours.

Winter daytime temperatures in the NCCAB typically average in the mid 50s during the day, with nighttime temperatures averaging in the low 40s. Summer daytime temperatures typically average in the 60s during the day, with nighttime temperatures averaging in the 50s. Precipitation varies within the region, but in general, annual rainfall is lowest in the coastal plain and inland valley, higher in the foothills, and highest in the mountains.

Greenfield is located more than 40 miles from the coast within the Salinas Valley, a steep-sloped coastal valley that opens out on to the Monterey Bay and extends southeastward. It is affected by sea breezes blowing from the northwest, but is less affected by the marine stratus that persists in the coastal plains of Monterey County. Persistent sea breezes ventilate the area; however its downwind location with respect to other metropolitan areas, warm temperatures and persistent sunshine create a moderate potential for photochemical air pollution.

3.3.2 REGULATORY SETTING

Air quality in the NCCAB is regulated by federal, state, and regional control authorities. EPA is involved in local air quality planning through the Federal Clean Air Act (CAA), as amended by the Clean Air Act Amendments of 1990. At the state level, the Lewis-Presley Air Quality Management Act (originally adopted in 1976 and substantially amended in 1987) and the California Clean Air Act of 1988 set air quality planning and regulatory responsibilities for the NCCAB. California Air Resources Board (ARB) is charged with the responsibility for coordinating efforts to attain and maintain ambient air quality standards and conducting research into the causes of, and solutions to, air pollution problems. ARB delegates the permitting authority of stationary sources of emissions to local and regional air districts, such as the MBUAPCD.

FEDERAL CLEAN AIR ACT

The early federal legislative response to air quality concerns consisted of the Air Pollution Control Act of 1955, the Clean Air Act of 1963, and the Air Quality Act of 1967. The goal of the Clean Air Act (CAA) of 1970, as stated by Congress in the 1977 CAA Amendments, was "to protect and enhance the quality of the Nation's air resources." The Clean Air Act Amendments of 1990 are extremely broad. The major titles of the 1990 Amendments address attainment of air quality standards, mobile source emissions, air toxics, acid rain, a new federal permit program, enforcement, and protection of stratospheric ozone. The titles

that most substantially affect the air quality analysis of the proposed project are Title I (attainment and maintenance provisions) and Title II (mobile source provisions).

Title I of the Clean Air Act Amendments of 1990

The goal of Title I is to attain federal air quality standards for six criteria pollutants: ozone (O3), carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO2), sulfur dioxide (SO2), and lead (Pb). National Ambient Air Quality Standards (AAQS) for these criteria pollutants are summarized in **Table 3.3-1**. The 1990 Amendments divided the nation into five categories of planning regions, depending on the severity of their pollution, and set new timetables for attaining the air quality standards. The categories range from "marginal" to "extreme." Attainment deadlines are from three to 20 years, depending on the category.

Title I also requires each nonattainment area to submit a comprehensive inventory of actual emissions as part of a State Implementation Plan (SIP) revision to demonstrate the means for achieving federal standards by the established deadlines. Each nonattainment area must achieve a 15 percent reduction from its actual 1990 emissions inventory within six years. Thereafter, each area must achieve a three percent annual reduction.

Provisions of Section 182 of the 1990 Clean Air Act Amendments relate to ozone nonattainment areas and Sections 186 and 187 relate to carbon monoxide nonattainment areas. These sections emphasize strategies for reducing vehicle miles traveled. Section 182 requires submission of a SIP revision "that identifies and adopts specific enforceable transportation control strategies and transportation control measures to offset any growth in emissions from growth in vehicle miles traveled or numbers of vehicle trips in such area" to meet statutory requirements for demonstrating periodic emissions reduction requirements. Section 187 makes the same basic requirement applicable to carbon monoxide nonattainment areas. Section 188 sets forth requirements for PM_{10} nonattainment areas.

TABLE 3.3-1
SUMMARY OF AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards [a, d]	National Standards [b, d]	
			Primary [e]	Secondary [f]
Ozone (O_3)	1-hour	0.09 ppm (180 $\mu g/m^3$)	- -	Same as Primary
	8-hour	0.070 ppm (137 $\mu g/m^3$)	0.08 ppm (157 $\mu g/m^3$)	
Particulate Matter (PM_{10})	AAM	20 $\mu g/m^3$ *	50 $\mu g/m^3$ f	
	24-hour	50 $\mu g/m^3$	150 $\mu g/m^3$	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 $\mu g/m^3$*	15 $\mu g/m^3$	
	24-hour	No Standard	65 $\mu g/m^3$	
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	None
	8-hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	
	8-hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	
Nitrogen Dioxide (NO_2)	AAM	–	0.053 ppm (100 $\mu g/m^3$)	Same as Primary
	1-hour	0.25 ppm (470 $\mu g/m^3$)	–	
Sulfur Dioxide (SO_2)	AAM	–	0.03 ppm (80 $\mu g/m^3$)	–
	24-hour	0.04 ppm (105 $\mu g/m^3$)	0.14 ppm (365 $\mu g/m^3$)	–
	3-hour	–	–	0.5 ppm (1,300 $\mu g/m^3$)
	1-hour	0.25 ppm (655 $\mu g/m^3$)	–	–
Lead [g]	30-day Average	1.5 $\mu g/m^3$	–	–
	Calendar Quarter	–	1.5 $\mu g/m^3$	Same as Primary
Sulfates	24-hour	25 $\mu g/m^3$	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 $\mu g/m^3$)		
Vinyl Chloride[g]	24-hour	0.01 ppm (26 $\mu g/m^3$)		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient of 0.23 per kilometer — visibility of 10 miles or more (0.07—30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.		

[a] California standards for O_3, CO (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, PM (PM_{10} and $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded.

[b] National standards (other than O_3, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than

once a year. The O_3 standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of daily concentrations, average over three years, are equal to or less than the standard.

[c] This concentration was approved by the Air Resources Board on April 28, 2005 and is expected to become effective in early 2006.

[d] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25EC and a reference pressure of 760 torr.

[e] The levels of air quality necessary to protect the public health.

[f] The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

AAM = Annual Arithmetic Mean

Source: ARB 2005

Title II of the Clean Air Act Amendments of 1990

Title II of the 1990 Amendments, which contains provisions to control emissions from mobile sources, includes the following measures to reduce pollutants from mobile sources: (1) mandatory use of cleaner, reformulated gasoline in those cities with the most severe ozone problem, (2) use of cleaner fuels, such as methanol and natural gas, to meet particulate standards, and (3) requirements on auto manufacturers to reduce tailpipe emissions of hydrocarbons (HC) and oxides of nitrogen. Section 177 of Title II permits California to adopt stricter vehicle emission standards and allows other states to adopt California's stricter standards.

CALIFORNIA CLEAN AIR ACT

The California Clean Air Act of 1988 (CCAA), amended in 1992, requires all air districts in the state to endeavor to achieve and maintain state ambient air quality standards for ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and particulate matter by the earliest practicable date. California's ambient air quality standards are generally stricter than national standards for the same pollutants. California also has established its own standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles (**Table 3.3-1**).

AIR QUALITY MANAGEMENT PLANS

As required by the CCAA, the MBUAPCD adopted the 1991 Air Quality Management Plan for the Monterey Bay Region. The 1991 AQMP addressed planning requirements to meet the ozone standard mandated by the CCAA and included measures to control emissions of VOC from stationary and mobile sources. Since the 1991 AQMP was adopted, control requirements have been reduced. The AQMP was most recently updated in 2004 to reflect these changes. The most recent 2004 AQMP update concluded that the NCCAB remains on the borderline between attainment and nonattainment in part due to variable meteorological conditions occurring from year to year, transport of air pollution from the San Francisco Bay Area, and locally generated emissions (MBUAPCD 2005).

In December 1995, the MBUAPCD also prepared the 1995 Report on Attainment of the California Fine Particulate Standard in the Monterey Bay Region. This report was most recently updated in 1998. The report found that existing control on sources of NO_x emissions, which serve as precursors to PM_{10}, may lead to attainment and maintenance of the State PM_{10} standard through 2010 (MBUAPCD 2005).

The Clean Air Act requires that projects receiving federal funds demonstrate conformity to the local AQMP. Conformity guidelines for the AQMP extend these requirements to all regionally significant projects, regardless of whether federal funding is being sought. Emission forecasts contained in the AQMP are based, in part, on population forecasts adopted by the Association of Monterey Bay Area Governments (AMBAG). For population-related projects, conformity with the AQMP is assessed by comparing the projected population growth associated with the project to these population forecasts (MBUAPCD 2004).

AMBIENT AIR QUALITY

Ambient air quality in the Salinas Valley portion of Monterey County can be inferred from ambient air quality measurements conducted by the MBUAPCD at its King City and Salinas monitoring stations. **Table 3.3-2** summarizes the last three years of published data from the King City and Salinas monitoring stations.

As depicted in **Table 3.3-2**, ambient air quality has exceeded the state PM_{10} standard at the Salinas monitoring stations on approximately four occasions during the past three years of available data. No other exceedance of state or federal AAQS for other pollutants have been measured at either the King City or Salinas monitoring stations over the past three years. Ozone concentrations within the basin are generally decreasing. In the past, most ozone within the basin was the result of pollutant transport from the San Francisco Bay Area. With local growth, however, ozone air pollution from local sources is increasing.

TABLE 3.3-2
SUMMARY OF AMBIENT AIR QUALITY DATA

POLLUTANT STANDARDS	2002	2003	2004
King City-750 Metz Road Air Monitoring Station			
Ozone (O_3)			
Maximum concentration, 1-hr/8-hr period (ppm)	0.079/0.066	0.085/0.074	0.078/0.070
Number of days state standard exceeded	0	0	0
Number of days federal standard (1-hr/8-hr) exceeded	0/0	0/0	0/0
Suspended Particulates (PM_{10})			
Maximum 24-hour concentration ($\mu g/m^3$)	62.4	38.0	46.1
Number of days state standard exceeded	- -	- -	- -
Number of days federal standard exceeded	0	0	0

Salinas #3 Air Monitoring Station			
Ozone (O_3)			
Maximum concentration, 1-hr/8-hr period (ppm)	0.075/0.062	0.073/0.063	0.077/0.070
Number of days state standard exceeded	0	0	0
Number of days federal standard (1-hr/8-hr) exceeded	0/0	0/0	0/0
Carbon Monoxide (CO)			
Maximum concentration, 1-hr/8-hr period (ppm)	2.3/1.38	2.8/1.09	1.9/1.21
Number of days state (1-hr/8-hr) standard exceeded	0/0	0/0	0/0
Number of days federal (1-hr/8-hr) standard exceeded	0/0	0/0	0/0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration (ppm)	0.049	0.053	0.1394
Number of days state standard exceeded	0	0	0
Annual arithmetic mean (AAM)	0.007	0.006	0.007
AAM exceed federal standard?	0	0	0
Respirable Particulate Matter (PM_{10})			
Maximum 24-hour concentration ($\mu g/m^3$)	44.0	66.0	44.0
Number of days state standard exceeded	0	0	0
Number of days federal standard exceeded	0	4	0
Fine Particulate Matter ($PM_{2.5}$)			
Maximum 24-hour concentration ($\mu g/m^3$)	23.5	15.9	22.3
Number of days federal standard exceeded *	0	0	0

AAM Annual Arithmetic Mean
(μg/m3) Micrograms per Cubic Meter
ppm Parts per Million
- - Not Calculated or Insufficient Data Available
Source: ARB 2005

ATTAINMENT STATUS FOR CRITERIA AIR POLLUTANTS

The attainment status of the NCCAB is summarized in **Table 3.3-3**. An attainment designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A nonattainment designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation(s) was caused by an exceptional event, as defined in the criteria. Unclassified designations indicate insufficient data is available to determine attainment status.

Under the Federal Clean Air Act, the NCCAB is currently designated attainment for the recently established eight-hour ozone federal AAQS. The NCCAB is designated either attainment or unclassified for the remaining federal AAQS. Under the California Clean Air Act, the basin is designated as a moderate nonattainment area for the state ozone AAQS. The NCCAB is also designated a nonattainment area for the state PM_{10} AAQS.

TABLE 3.3-3
NCCAB Attainment Status Designations

POLLUTANT	NATIONAL DESIGNATION	STATE DESIGNATION
Ozone, 1 hour	Attainment/Maintenance	Nonattainment/Transitional
Ozone, 8 hour	Unclassified/Attainment	Not Applicable
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Unclassified	Attainment
Carbon Monoxide	Unclassified/Attainment	Unclassified/Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Sulfates	Not Applicable	Attainment
Lead	Not Applicable	Attainment
Hydrogen Sulfide	Not Applicable	Unclassified
Visibility Reducing Particles	Not Applicable	Unclassified

Sources: ARB 2005

ODORS

Offensive odors rarely cause physical harm, however they can be very unpleasant, leading to considerable stress among the public and often generating citizen complaints to local governments and agencies. Facilities commonly known to produce odors, including wastewater treatment facilities, chemical manufacturing, painting/coating operations, feed lots/dairies, composting facilities, landfills, and transfer stations. Because offensive odors rarely cause physical harm and no requirements for their control are included in state or federal air quality regulations, the MBUAPCD has no rules or standards related to odor emissions, other than its nuisance rule. Any actions related to odors are based on citizen complaints to local governments and MBUAPCD. No existing major sources of odors have been identified in the project vicinity.

TOXIC AIR CONTAMINANTS

The ARB works in partnership with the local air districts to enforce regulations that reduce toxic air contaminants (TACs) in the state. The ARB has authority for motor vehicles, fuels, and consumer products. The ARB identifies the TACs, researches prevention or reduction methods, adopts standards for control, and enforces the standards. Particulate Matter (PM) emissions from diesel-fueled vehicles and engines are the primary TACs of concern for mobile sources. Of all controlled TACs, diesel-exhaust PM emissions are estimated to be responsible for about 70 percent of the total ambient TAC risk. The ARB has made the

reduction of the public's exposure to diesel PM one of its highest priorities, with an aggressive plan to require cleaner diesel fuel and cleaner diesel engines and vehicles (ARB 2005).

The ARB identified particulate emissions from diesel-fueled engines (diesel-exhaust PM) as a TAC in August 1998. The ARB has since developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (2000) and the *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines* (2000). The ARB is currently developing regulations designed to reduce diesel PM emissions from diesel-fueled engines and vehicles. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions. These regulations will require substantial reductions in diesel-exhaust PM, which began with the 2004 model year. Additional more stringent standards will apply to engines starting in the 2007 model year. Off-road vehicles came under more stringent regulation beginning with the 2005 model year. Each set of regulations will serve to significantly reduce diesel PM emissions and long-term human health risks attributable to diesel-fueled vehicles and equipment.

In addition to the above plans, the ARB recently released the *Air Quality and Land Use Handbook: A Community Health Perspective (Handbook)* (2005). The Handbook provides guidance regarding the siting of sensitive land uses near major sources of TACs (e.g., freeways, dry cleaners, and large gas stations) to reduce related health effects from TACs. The Handbook identifies the TACs commonly associated with specific types of facilities, as well as recommended set-back distances for sensitive land uses. For example, according to the Handbook, sensitive land uses should generally not be located within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. Actual setback distances will vary, depending on site-specific conditions and operational characteristics.

Whereas the ARB has primary authority over mobile sources, local air districts have authority over stationary or industrial sources. MBUAPCD requires permits for all source operations that may emit TACs. All projects that require air quality permits from the MBUAPCD are evaluated for TAC emissions. The MBUAPCD limits emissions and public exposure to TACs through a number of programs. The MBUAPCD prioritizes TAC-emitting stationary sources, based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. The MBUAPCD requires a comprehensive health risk assessment for facilities that are classified in the significant-risk category, pursuant to Assembly Bill (AB) 2588 Program (Air Toxics "Hot Spot" Information and Assessment Act of 1987) (MBUAPCD 2005).

3.3.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based upon CEQA Guidelines, MBUAPCD thresholds, and previous standards used by the City. For the purposes of this EIR, impacts are considered significant if the following could result from implementation of the proposed project:

1) Short term construction would emit greater than 82 pounds per day (lbs/day) of PM_{10}, or will cause a violation of PM_{10} National or State AAQS at nearby receptors;

2) Regional (operational) impacts would be significant if the project generates direct and indirect emissions of ROG or NO_X that exceed 137 lbs/day. Emissions of PM_{10} would be significant if the project would exceed 82 lbs/day or if the project would contribute to local PM_{10} concentrations that exceed Ambient Air Quality Standards. Emissions of SO_X would be significant if the project generates direct emissions of greater than 150 lbs/day;

3) Generates direct emissions of greater than 550 lbs/day of CO or if the project would contribute to local CO concentrations that exceed the State Ambient Air Quality Standard of 9.0 ppm for eight hours or 20 ppm for one hour. (Indirect emissions are typically considered to include mobile sources that access the project site but generally emit off-site; direct emissions typically include sources that emitted on-site [e.g., stationary sources, on-site mobile equipment etc.]);

4) Would expose the public to substantial levels of TACs so that the probability of contracting cancer for the Maximally Exposed Individual would exceed 10 in one million and/or so that ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index greater than one for the Maximally Exposed Individual; and/or

5) Has the potential to frequently expose members of the public to objectionable odors.

PROJECT IMPACTS AND MITIGATION MEASURES

Construction Impacts

Impact 3.3-1 Construction activity at the proposed project site would generate temporary emissions of criteria pollutants that could exceed MBUAPCD significance thresholds. This is considered a **potentially significant** impact.

Construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur, but possess the potential to represent a significant air quality impact. The construction and development of residential, commercial, and industrial uses would result in the temporary generation of emissions resulting from site grading and excavation, road paving, the application of architectural coatings, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities. MBUAPCD has determined that construction activities that involve minimal earth moving over an area of 8.1 acres, or more, could result in a potentially significant temporary air quality impacts, if not mitigated. Construction activities that require more extensive site preparation (e.g., grading and excavation) may result in significant impacts if the area of disturbance were to exceed 2.2 acres per day (MBUAPCD 2004).

The proposed project includes annexation of 267 acres and ultimate development of approximately 217 acres. Specific land uses to be constructed, as well as construction-related information, such as areas of maximum daily disturbance, associated with proposed uses have yet to be determined. As a result, daily construction-generated emissions cannot be accurately quantified at this time. However, given the size of the proposed project, it is conceivable that areas of maximum daily disturbance could potentially exceed the MBUAPCD's screening level thresholds. As a result, this impact is considered **potentially significant**.

Mitigation Measure

MM 3.3-1 Best-available control measures (BACM) shall be required during site preparation and construction of proposed land uses. When tentative subdivision maps are submitted and prior to approval of building permits, a construction emissions reduction plan (CERP) shall be prepared, for review by the MBUAPCD, to reduce construction-generated fugitive and mobile-source emissions. The MBUAPCD shall be consulted to determine BACM to be implemented to minimize impacts to nearby sensitive receptors. Measures to be included in the CERP prepared for

this project, as currently recommended by the MBUAPCD, include but are not limited to the following:

Fugitive Dust

a. Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil and wind exposure;
b. Prohibit all grading activities during periods of high wind (over 15 mph);
c. Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days);
d. Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseed areas;
e. Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard.
f. Replant vegetation in disturbed areas as quickly as possible.
g. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles, such as dirt, sand, etc.
h. Sweep daily, with water sweepers, all paved access roads, parking areas and staging areas at construction sites.
i. Sweep streets daily, with water sweepers, if visible soil materials are carried onto adjacent public streets.
j. Limit traffic speeds on unpaved roads to 15 mph.
k. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
l. Limit areas of active disturbance to no more than 2.2 acres per day for initial site preparation activities that involve extensive earth-moving activities (grubbing, excavation, rough grading), or 8.1 acres per day for activities that involve minimal earth moving (e.g., finish grading).

Mobile / Stationary Source Emissions

m. Diesel equipment used onsite should be year 2003, or newer, equipped with emission control technology (e.g., diesel-oxidation catalyst), or use alternative fuels (e.g., biodiesel) that sufficiently reduces diesel-exhaust emissions at nearby receptors to within acceptable levels, as defined by the MBUAPCD. For equipment retrofitted to operate with diesel exhaust emissions control

technology, the CERP shall include verification of installation or presence of these devices for review by the MBUAPCD.

n. To the extent feasible, construction equipment shall not be left idling
o. Limit the pieces of equipment used at any given time
p. Minimize the use of diesel-powered equipment (i.e., wheeled tractor, wheeled dozer)
q. Limit hours of operation for heavy-duty equipment
r. Undertake project during non-ozone season
s. Stationary equipment shall be placed at the furthest feasible distance from nearby residences
t. Post a publicly visible sign which specifies the telephone number and person to contact regarding emissions-related complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Monterey Bay Unified Air Pollution Control District shall be visible to ensure compliance with Rule 402 (Nuisance).

Implementation of the above mitigation measures would reduce fugitive dust emissions associated with individual construction activities/components by approximately four to 90 percent, with overall fugitive dust emission reductions of up to approximately 50 percent, or more, depending on the activities conducted (MBUAPCD 2004). Implementation of the above mitigation measure would require the project applicant to prepare a Construction Emissions Reduction Plan (CERP) that would sufficiently reduce short-term construction-generated emissions to within acceptable levels. The CERP shall be reviewed by the MBUAPCD, prior to issuance of a building permit. With implementation of the above mitigation measure, this impact would be considered **less than significant**.

Impact 3.3-2 Construction activities would involve the use of diesel-powered equipment that may result in localized concentrations of mobile source TACs at nearby receptors. Short-term exposure to localized concentrations of TACs (primarily acrolien) could exceed applicable air quality thresholds. This is a considered **potentially significant** impact.

Implementation of the proposed project would result in the generation of diesel PM emissions during construction from the use of off-road diesel equipment for site grading and excavation, paving, and other construction activities.

Construction activities associated with the project site would occur over multiple years and would be spread over a large area. Use of diesel-powered construction equipment in any one area would be temporary and episodic and would cease when construction is

completed in that area. For these reasons, diesel PM generated by project construction itself would not be expected to create conditions where the probability of contracting cancer is greater than 10 in one million for nearby receptors. However, short-term health effects may occur. Depending on the construction activities conducted, as well as site and meteorological conditions, short-term non-carcinogenic risks associated with exposure to diesel-exhaust pollutants, particularly acrolein, could potentially exceed a Hazard Index greater than one for the Maximally Exposed Individual. Such short-term health risks commonly include, but are not limited to, eye and respiratory tract irritation and increases in asthma occurrences. Short-term health risks associated with emissions of TACs from construction equipment are considered **potentially significant**.

Implementation of **MM 3.3-1** would substantially reduce diesel-exhaust emissions from onsite construction equipment. For instance, use of diesel oxidation catalysts, particulate filters, and alternative fuels such as biodiesel, can reduce diesel-exhaust constituent emissions by approximately 90 percent, or more (MBUAPCD 2004). Implementation of **MM 3.3-1** would require the project applicant to prepare a Construction Emissions Reduction Plan (CERP) that would sufficiently reduce short-term construction-generated emissions to within acceptable levels. The CERP shall be reviewed by the MBUAPCD, prior to issuance of a building permit. With implementation of **MM 3.3-1**, this impact would be considered **less than significant**.

Operational Emissions

Impact 3.3-3 Operational emissions associated with buildout of the proposed Residential, Commercial and Industrial uses would result in emissions of criteria air pollutants. Project-generated emissions would exceed MBUAPCD's significance thresholds. This is considered a **significant and unavoidable** impact.

Regional area and mobile source emissions associated with the proposed land uses were estimated using the ARB-approved URBEMIS2002 (version 8.7) computer program, which is designed to model emissions for land use development projects. The vehicle trip characteristics for the North Central Coast Air Basin, as identified in the MBUAPCD's *CEQA Air Quality Guidelines*, were included in the model. Vehicle trip generation rates for proposed land uses were based on data obtained from the transportation analysis prepared for this project (Higgins Associates 2005). In accordance with MBUAPCD recommendations, long-term operational emissions attributable to the proposed project were quantified assuming full buildout for both summer and winter conditions. To ensure a conservative analysis, project-generated emissions were estimated based on year 2010 emission factors. Estimated emissions are summarized in **Table 3.3-4**.

TABLE 3.3-4
OPERATIONAL EMISSIONS AT BUILDOUT WITHOUT MITIGATION

Source	Estimated Emissions (lbs/day)				
	ROG	NO_X	CO	SO_X	PM_{10}
Area sources (Direct Sources)					
Natural Gas-Fired Appliances	0.97	13.11	9.49	0.0	0.02
Hearth (Fireplaces)	33.65	5.94	267.00	1.67	44.40
Landscape Maintenance	1.29	0.17	10.2	0.06	0.03
Consumer Products	14.33	0.0	0.0	0.0	0.0
Architectural Coatings	37.86	0.0	0.0	0.0	0.0
Mobile source (Indirect Sources):	260.30	300.05	2,601.12	2.19	330.26
TOTAL (Direct Sources)	***88.10***	***19.22***	***286.69***	***1.73***	***44.45***
TOTAL (Direct & Indirect Sources)	***348.40***	***319.27***	***2,887.81***	***3.92***	***374.71***
MBUAPCD thresholds (lbs/day)	**137**	**137**	**550***	**150***	**82**

Emissions were estimated based on default model settings recommended by the MBUAPCD and trip generation rates obtained from the traffic analysis prepared for this project. CO emissions and wood stove/fireplace emissions are based on winter conditions. To be conservative, landscape maintenance activities and hearth emissions were assumed to occur on the same day.
*Applies to Direct Source Emissions Only.

As depicted in **Table 3.3-4**, emissions generated by the proposed land uses are primarily attributable to increases in motor vehicle use. Based on the modeling conducted, full buildout of the proposed land uses would result in long-term regional emissions of approximately 348 lbs/day of ROG, 319 lbs/day NO_X, 2,888 lbs/day of CO, 4 lbs/day SO_X, and 375 lbs/day of PM_{10}. Emissions from mobile sources constitute approximately 82 percent of total overall project-generated emissions.

Based on the modeling conducted, predicted long-term direct and indirect operational emissions of ROG, NO_X, and PM_{10} would exceed MBUAPCD significance thresholds. Long-term operational emissions of CO and SO_X from direct sources were not estimated to exceed MBUAPCD significance thresholds. However, the URBEMIS2002 model does not take into account onsite mobile source emissions that sometime occur associated with some commercial or industrial land uses that involve use of large numbers of onsite mobile equipment (e.g., distribution facilities, agricultural packaging facilities, truck stops). As a result, should proposed development include uses that involve the substantial use of onsite mobile equipment, long-term direct emissions of CO associated with proposed commercial and industrial land uses may exceed MBUAPCD significance thresholds. Because project-generated emissions would exceed MBUAPCD significance thresholds, this impact would be considered **significant**.

MM 3.3-3 The project applicant shall implement MBUAPCD-recommended mitigation measures to the extent practical. Prior to approval of building permits, the MBUAPCD shall be consulted to determine applicable measures to be implemented to reduce long-term operational emissions associated with proposed land uses. The City of Greenfield will review proposed tentative maps and improvement plans to identify emission reduction measures incorporated into the project. City Staff may recommend additional measures as practical and feasible. Measures currently recommended by the MBUAPCD include the following:

Highway Commercial and Industrial Uses:

a. Provide preferential carpool/vanpool parking spaces
b. Implement a parking surcharge for single occupant vehicles
c. Provide facilities that encourage the use of alternative transportation sources (e.g., public transportation, bicycle and pedestrian access), such as transit bus pullouts shelters, and onsite showers, lockers and bicycle storage/parking.
d. Provide onsite child care centers
e. Develop park-and-ride lots
f. Employ a transportation/rideshare coordinator
g. Implement a rideshare program
h. Provide incentives to employees to rideshare or to take public transportation
i. Implement compressed work schedules
j. Implement a telecommuting program

Residential Uses:

k. Use EPA-certified or gas-fired fireplaces
l. Provide pedestrian sidewalks and bicycle paths that link to adjacent land uses and external networks
m. Incorporate energy-efficient appliances into residential uses

All Uses:

n. Orient buildings to minimize heating and cooling needs
o. Provide shade trees to reduce cooling needs
p. Include energy-efficient lighting systems
q. Include solar water heaters or centralized water heating systems

r. Increase insulation beyond Title 24 requirements to minimize heating and cooling needs

Implementation of **MM 3.3-3** and incorporation of specific measures into project design would reduce long-term operational emissions, but not necessarily to less-than-significant levels. Measures that promote use of alternative means of transportation or carpooling would typically reduce mobile-source emissions by less than approximately two percent (MBUAPCD 2004). Project-generated emissions of ROG, NO_X, and PM_{10} would still be anticipated to exceed MBUAPCD's recommended significant thresholds. No additional mitigation measures were identified that would reduce emissions to below MBUAPCD's significance thresholds. As a result, increases in long-term regional emissions attributable to the proposed project would be considered **significant and unavoidable**. Therefore a Statement of Overriding Consideration would be required.

Carbon Monoxide (CO) Emissions

Impact 3.3-4 Implementation of the proposed project would result in the generation of CO at nearby intersections from increased vehicular traffic on the local transportation network. However, the proposed project would not contribute to localized CO concentrations that are projected to exceed AAQSs at nearby receptors. This is considered a **less than significant** impact.

Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed, and delay. Transport of CO is extremely limited because it disperses rapidly with distance from the source under normal meteorological conditions. Under specific meteorological conditions, CO concentrations near roadways and/or intersections may reach unhealthy levels. For this reason, modeling of CO concentrations is typically recommended for sensitive land uses located near signalized roadway intersections that are projected to operate at unacceptable levels of service (i.e., LOS E or F) (Caltrans 1997).

According to the Traffic Impact Study prepared for the proposed project, implementation of the proposed project, for both interim and future cumulative General Plan buildout conditions would not result in unacceptable levels of service at existing nearby signalized intersections. Likewise, stop-controlled intersections proposed for signalization with project implementation are not projected to operate at unacceptable levels of service. Based on predicted traffic LOS and given the relatively low background CO concentrations (**Table 3.3-2**) predicted localized mobile-source CO concentrations are not anticipated to exceed applicable ambient air quality standards at sensitive land uses. This is considered a **less than significant** impact.

Odorous Emissions

Impact 3.3-5 The proposed project would not result in the development of new sensitive land uses (residential) in the vicinity of existing odor sources. Future development of proposed commercial and industrial land uses would be anticipated to result in the exposure of a substantial number of individuals to increases in odorous emissions. This is considered a **less than significant** impact**.**

The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to have a potentially significant impact.

No major existing sources of odors have been identified in the project vicinity. In addition, no odor complaints have been filed with the MBUAPCD for the NH_3 Service Company, which is the nearest existing industrial source to the project site. The proposed project is not anticipated to result in the installation of any major odor emission sources that would result in a potentially significant impact to the occupants of the proposed onsite or existing offsite land uses. Although specific commercial and industrial uses have not yet been identified, uses considered to be minor sources of odors may be developed. Such sources typically include dry cleaning establishments, restaurants, and gasoline stations. Receptors located in the general vicinity of such sources may be exposed to odorous emissions. In addition, the use of agricultural chemicals and fertilizers on nearby parcels may also generate odors that could be detectable for brief periods of time at proposed residential dwellings.

Compliance with MBUAPCD permit and nuisance rules related to odors would help to control emissions of odorous emissions from proposed stationary sources. For instance, MBUAPCD Rule 402 (Nuisances) prohibits the discharge of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons. Compliance with such existing regulatory requirements would help to ensure that exposure of receptors to offensive odors remains at a less-than-significant level. In addition, existing surrounding land uses consist primarily of agricultural uses and rural residential dwellings. As a result, proposed commercial and industrial land uses would not be anticipated to result in increased exposure of a substantial number of people to odors. For these reasons, this impact is considered **less than significant**.

Exposure to Toxic Air Contaminants (TACs)

Impact 3.3-6 The proposed project would place residential units within the immediate vicinity of the NH_3 Service Company, a regulated facility. The proposed project could also include the use of diesel-fueled vehicles that may result in the generation of diesel-exhaust PM emissions, which may result in localized increases in diesel-exhaust PM. This is considered a **less than significant** impact.

Stationary Sources

No major existing stationary sources of toxic air contaminants (TACs) were identified in the vicinity of the proposed project site. Emissions from the NH_3 Service Company in the City of Greenfield are monitored and permitted by the MBUAPCD under permits designed to minimize air quality impacts. The NH_3 Service Company, which is located at 41933 El Camino Real adjacent to Highway 101 between the proposed residential and Highway Commercial portions of the project site. The NH_3 Service Company has two MBUAPCD permits that allow for the release of emissions while operating equipment to load overhead dry fertilizer storage bins and the release of emissions while operating painting equipment. These two Operating Permits are numbered 4089A and 8729B by the MBUAPCD. All MBUAPCD permits include conditions prohibiting the creation of a nuisance by the use. As such, if the emissions were found to be a nuisance to the development proposed, MBUAPCD would take action to rectify the nuisance upon a valid complaint. A copy of each permit can be seen in the Technical Appendices of this EIR.

The proposed project would also result in the development of commercial and industrial land uses east of the freeway, which may generate emissions of TACs from stationary sources. The development of any new stationary sources of toxic air contaminants associated with the proposed commercial and industrial land uses would be subject to MBUAPCD rules and regulations and permitting requirements. MBUAPCD Rule 1000 (Permit Guidelines and Requirements for Sources Emitting TACs), includes specific requirements, including the incorporation of toxic control measures and preparation of health risk assessments to ensure that resultant emissions would not exceed established standards. As part of the District's permitting requirements, sources having the potential to emit TACs would be required to implement measures designed to ensure that potential health risks to nearby receptors do not exceed established standards. Compliance with applicable regulatory standards is required as part of the permitting process for the development and operation of facilities that may emit TACs. Emissions of TACs associated with the development of any stationary sources attributable to the proposed project would be considered less than significant.

Mobile Sources

The primary sources of TACs in the project area include heavy-duty diesel vehicles traveling on Highway 101. Some of the residential dwellings proposed for construction on the parcel located west of Highway 101 may be located within the 500-foot setback generally recommended by the Air Resources Board to reduce health-related impacts (e.g., respiratory symptoms, asthma exacerbations, decreased lung function) attributable to diesel-exhaust PM from major transportation sources.

It is conceivable that the proposed project may include commercial and/or industrial uses that could involve the frequent use of diesel-fueled trucks, a source of mobile TACs. The use of diesel-fueled trucks may result in localized increases of diesel-exhaust PM concentrations. The project location containing commercial and industrial use, however, is somewhat isolated and surrounded by open space on three sides. There are no nearby sensitive receptors such as homes, schools, hospitals or day care centers in this area. The nearest residences will be the St. Charles Place development on the opposite side of the freeway several hundred feet to the west and upwind from the project area.

It is also unclear what effect the ARB's new diesel engine emission standards and diesel-exhaust PM regulations would have on the level of emissions from any one facility. The combined effects of TACs from all stationary and mobile sources developed under the proposed project are not quantifiable. Future development of commercial and industrial land uses will be subject to subsequent environmental review in accordance with CEQA based on the uses proposed. As part of this review process, project applicant(s) of proposed commercial and industrial land uses shall allow the MBUAPCD to review and comment on situations in which toxic risk from diesel-exhaust PM may occur and to identify feasible mitigation measures to be implemented to reduce associated health risks. Example mitigation measures may include, but are not limited to, increased setback distance between TAC sources and receptors; limits on the operational hours and/or characteristics of TAC sources; and designing site plans so that loading and unloading areas are away from sensitive receptors, or inclusion of physical barriers between source and receptor to aid in pollutant dispersal.

In addition emissions from on-road mobile sources are regulated in California by the ARB. The ARB has developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, which includes measures to reduce diesel-exhaust PM by 75 percent by 2010. With continued implementation of these measures, an 85-percent reduction in diesel-exhaust PM is anticipated by 2020. While many of the ARB emission controls have not been fully implemented at this time, there are existing regulations that mandate lower diesel-exhaust PM from new on-road diesel-fueled vehicles. These regulations will result in substantial reductions in diesel-exhaust PM from on-road heavy-duty diesel-fueled engines which began with the 2004 model year. One of the most recent control measures implemented by the ARB became effective on February 1, 2005,

which limits idling time of diesel-fueled commercial motor vehicles to no more than five minutes. The ARB is currently reviewing additional regulatory changes that would expand this requirement to include non-commercial diesel-fueled vehicles.

A minimal portion of the proposed residential portion of the project is located within 500 feet of heavy-duty diesel vehicles traveling on Highway 101 and future Highway Commercial and Heavy Industrial developments. Site planning opportunities exist to set back the location of sensitive receptors (residential uses) at sufficient distance from potentially significant amounts of TACs, including diesel emissions.

The absence of existing acute sources of TAC near sensitive receptors and the required adherence to MBUAPCD permitting requirements for all future development proposals within the annexation area will render impacts to a **less than significant** level.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Regional Impacts

Impact 3.3-7 New development, combined with other reasonably foreseeable projects in the City, would contribute to increased air quality emissions in the air basin. This cumulative impact is **significant and unavoidable.**

The project's contribution to a significant cumulative air quality impact would be significant and unavoidable. The Association of Monterey Bay Area Governments (AMBAG) made findings of project consistency with the regional air quality management. MBUAPCD CEQA Guidelines provide that a consistency analysis and determination serve as an assessment of the cumulative impacts of a project on regional air quality. AMBAG has determined that the proposed project is consistent with the AQMP. However, as identified in Impact 3.3-3 operational/regional emissions from buildout of the proposed project would result in a significant and unavoidable impact. In addition, the City of Greenfield General Plan EIR identified that regional emissions for the Planning Area were significant and unavoidable. The project site is currently located outside of the City of Greenfield limits; addition of the proposed project site would cause the regional emissions for the City to remain significant and unavoidable. Therefore the cumulative impact of the project is considered to be **significant and unavoidable**.

REFERENCES/DOCUMENTATION

Ambient Air Quality and Noise Consulting. *Air Quality Assessment for the South End Annexation Project*, City of Greenfield, December 2005.

California Air Resources Board (ARB). 2005. url: http://www.arb.ca.gov.

California Air Resources Board (ARB). 2005b. Community Health Air Pollution Information System. url: http://www.arb.ca.gov/gismo/chapis_v01_6_1_04/chapis_v02.asp

California Air Resources Board (ARB). 2000a. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (2000)

California Air Resources Board (ARB). 2000b. Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines (2000).

California Air Resources Board (ARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective.

California Department of Transportation (Caltrans) December 1997. Transportation Project-Level Carbon Monoxide Protocol.

Monterey Bay Unified Air Pollution Control District (MBUAPCD). June 2004. CEQA Air Quality Guidelines

Monterey Bay Unified Air Pollution Control District (MBUAPCD). 2005. url: http://www.mbuapcd.org.

United States Environmental Protection Agency (USEPA) 2005. url: http://www.epa.gov/ebtpages/airairquality.html

City of Greenfield. *City of Greenfield General Plan*. October 2005

AMBAG. Todd Muck. Consistency Request and Response. January 4, 2006.

Monterey Bay Unified Air Pollution Control District (MBUAPCD). Permit to Operate 8729B and Permit to Operate 4089A.

Searson, Cindy. Air Quality Specialist. MBUAPCD. January 17, 2006. Personal Communication with Kurt Legleiter, AMBIENT Air Quality & Noise Consulting.

Ericksen, Lance. Engineering Division. MBUAPCD January 19, 2006. Personal Communication With William Heppler, PMC.

Section 3.4
Biological Resources

This section of the EIR evaluates project specific and cumulative impact to biological resources resulting from the development of the proposed project. The analysis of biological resources presented in this section is based on a review of the most current project description, data collected from a reconnaissance level site survey, maps, previous biological investigations and reports, as well as available literature from federal, state, and local agencies.

3.4.1 ENVIRONMENTAL SETTING

The following section describes conditions of the proposed project area with emphasis on biological resources.

REGIONAL SETTING

The project area is located immediately south of the City of Greenfield's city limits, and bisected by Highway 101 in Monterey County, California. Greenfield is located in the central portion of the County, in the middle of the Salinas Valley. The Salinas Valley is an extremely fertile alluvial formation, defined on the east by the Gabilan Range and on the west by the Santa Lucia range. As defined by the California Department of Fish and Game (DFG) Wildlife and Habitat Data Analysis Branch, habitat within Monterey County is extremely diverse and includes 33 different habitat types (DFG 2004). Predominant habitats in the Salinas Valley include cultivated cropland, vineyard, rangeland/grassland habitats, and riparian habitats along the Arroyo Seco and Salinas Rivers. **Table 1** included in the Technical Appendices presents wildlife commonly observed within the region.

BIOLOGICAL COMMUNITIES AND HABITAT TYPES OF THE PROJECT SITE

PMC biological resources staff conducted a reconnaissance level survey on November 11, 2005, to evaluate the existing habitat at the project location. Habitat occurring on the project site is discussed below. Special status wildlife species, sensitive plants, and critical habitat expected or known to occur within the general project area are also addressed in this section.

Irrigated Row and Field Crop

Habitat within the proposed project area is typical row and field crop on flat terrain, which is leveled to facilitate irrigation. Types of crops within this habitat largely depend on local soil types, climate, and farm management practices. Row and field crops in California frequently are annuals managed in a crop rotation system, although perennials such as alfalfa (*Medicago sativa*) are also often used to fix nitrogen in the soil. Crop rotation systems are used to maintain soil productivity throughout the year and break crop pest life cycles (DFG 2002). Broccoli (*Cruciferae sp.*), cauliflower (*Cruciferae sp.*), celery (*Umbelliferae sp.*), and lettuce (*Compositae sp.*) are common crops grown within and in the vicinity of the project location.

Irrigated row and field crops generally provide low habitat suitability for reproduction and cover of wildlife species, due to consistent disturbance of the area and crop loss prevention methods employed by farmers (e.g., fencing and insecticide use). However, many species of birds and mammals use cropland as foraging habitat. In addition, many other wildlife species benefit from the typical availability of irrigation water during drier months.

The project area is active irrigated row and field crop with a few associated urban areas, including one residence, a large metal shed with a few shade trees, access roads, and agricultural structures. The proposed project site also includes agricultural equipment storage facilities on APN 221-011-018.

Critical Habitat

Critical habitat is defined as specific areas that are essential to the conservation of a Federally listed species, and which may require special management considerations or protection. No critical habitat was identified at the project location or is expected to occur within the project vicinity.

Special Status Species

In general, special status species include plants and wildlife that are:

- Listed and protected under the Federal and/or California Endangered Species Acts;
- Listed and protected under other federal and/or state regulations;
- Sufficiently rare to qualify for listing or protection under federal and/or state regulations; or
- Considered unique or in decline by the scientific community.

Table 2 included in the biological resource report within Technical Appendices lists special status species identified by the U.S. Fish and Wildlife Service (USFWS) that may be affected by projects in Monterey County (USFWS 2005). **Table 2** also includes species and critical habitat (if present) listed in the California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) inventory within a nine USGS topographical quadrangle search range (DFG 2003 and CNPS 2005). Quadrangles included in the data search were Greenfield, North Chalone Peak, Paraiso Springs, Pinalito Canyon, Reliz Canyon, San Lucas, Soledad, Thompson Canyon, and Topo Valley. Species listed as being unlikely to occur within the project area are considered to be beyond their known range or to have low habitat suitability for reproduction, cover, and/or foraging. **Figure 3.4-1** shows the nearest recorded occurrences of special status species and critical habitat (if present) listed in the CNDDB within a one-mile radius of the project area.

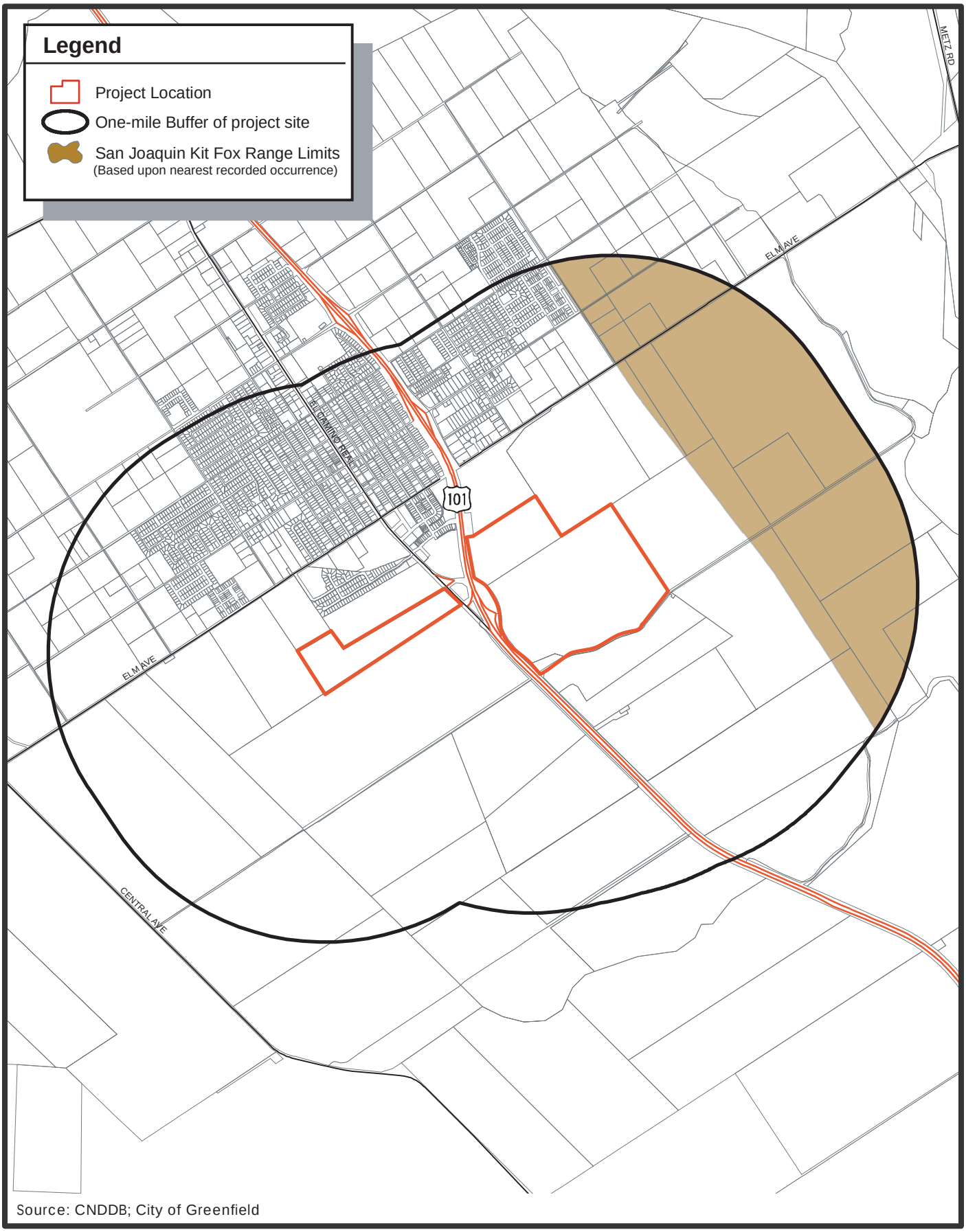
Species potentially needing further study, based on the analysis presented in Table 2 and with consideration to the City of Greenfield General Plan, are listed in **Table 3.4-1** below. These species are also addressed in the text below.

TABLE 3.4-1
SPECIES POTENTIALLY OCCURRING IN THE PROJECT AREA POTENTIALLY NEEDING STUDY

Common Name	Scientific Name	Status	General Habitat Description	Species' Presence Onsite (Likely/ Possible/ Unlikely)	Potential for Occurrence
Birds					
raptors (birds of prey, such as falcons, hawks, owls) as well as other migratory and resident birds	N/A	MBTA;§3 503.5 DFG Code;--	Various habitats.	Likely	Trees within and adjacent to the project location provide potential nest sites for common raptors that could also forage within the area. Migratory birds forage and nest in a variety of habitats, including those occurring at the project location. Therefore, it is likely nesting avian species occur onsite during appropriate times of year (i.e., specific species breeding season).
bank swallow	*Riparia riparia*	--;CT;--	(Nesting) Colonial nester; nests primarily in riparian and other lowland habitats west of the desert; requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Possible	Habitat within the project area typically provides high suitability for reproduction and cover, as well as, moderate suitability for foraging by this species during summer months. Large dirt mounds used for water retention onsite could possibly provide suitable nest sites for this species. However, the continual disturbance of the area and the lack of preferred riparian vegetation reduces the likelihood of bank swallow presence. Therefore, performing a preconstruction nest survey of the project area would be appropriate mitigation for reducing potential impact to this species from implementation of the proposed project.

Mammals					
San Joaquin kit fox	*Vulpes macrotis mutica*	FE;CT;--	Annual grasslands or grassy open stages with scattered shrubby vegetation; need loose-textured sandy soils for burrowing, and suitable prey base.	Unlikely	Occurrence of San Joaquin kit fox is documented on the CNDDB within one mile of the project location. Because of persistent human disturbance (i.e., active agricultural practices) and lack of suitable burrows onsite, it is unlikely this species inhabits the project area. However, the City of Greenfield General Plan (2005) acknowledges that San Joaquin kit fox are known from the vicinity of the planning area and further states that although habitat quality in the City of Greenfield is thought to be poor, it is possible this species occasionally forages within the planning area. Therefore, incidental take of a transient San Joaquin kit fox during implementation of the proposed project would be considered to be a potentially significant impact.

Notes: CT: California Threatened, DFG: California Department of Fish and Game, MBTA: Migratory Bird Treaty Act, '--: No status to date, N/A: Not applicable.



Source: CNDDB; City of Greenfield

T:\City of Greenfield\Graphic Development\Figures\Figure 3.4-1.ai, January 2006

0.25 0 0.25
Scale in Miles

N

Figure 3.4-1
Recorded Occurances of Special-Status Species Within 1 Mile of Project Site

PMC

This Page is Intentionally Left Blank

Listed and Special Status Plants

As shown on **Figure 3.4-1**, no special status plant species are known to occur within one mile of the project area. Furthermore, based on literature review (e.g., CNPS Inventory of Rare and Endangered Plants), soil survey analysis, and onsite survey observations, it is unlikely any special status plant species occur within the project area.

Listed and Special Status Wildlife

Based on USFWS and CNDDB information, several special status animals have a potential for occurrence within the project vicinity. However, habitat at the project location provides low suitability for many of these species; therefore, they are not expected to be adversely affected by the project. After further review of species' life history and habitat suitability data, as well as consulting the City of Greenfield General Plan, only common nesting raptor and migratory bird species (such as the bank swallow [*Riparia riparia*]) have a potential for occurrence at the project site and possibly require further study. These special status species are discussed below.

Raptors and Migratory Birds

Trees within and adjacent to the project location provide potential nest sites for common raptors that could also forage within the area. Migratory birds forage and nest in a variety of habitats, including agricultural and urban regions. Active bird nests potentially found within the project area are protected under the Migratory Bird Treaty Act (MBTA) and Section 3503.5 of the DFG Code, which prohibits their disturbance or destruction.

Bank Swallow

Bank swallow is a California listed threatened species. This bird forages primarily over open riparian areas for a variety of insects including, flies, bees, and beetles. Bank swallow use holes in cliffs and river banks as well as shoreline vegetation for cover. Reproduction occurs from early May through July, with peak activity from May to June. Alteration of rivers and streams have disturbed historic nesting areas and contributed to the decline of this species.

Habitat within the project area typically provides high suitability for reproduction and cover, as well as, moderate suitability for foraging by this species during summer months. Large dirt mounds used for water retention onsite could possibly provide suitable nest sites for this species. However, the continual disturbance of the area and the lack of preferred riparian vegetation reduce the likelihood of bank swallow presence.

San Joaquin Kit Fox

The San Joaquin kit fox is a mostly nocturnal federal endangered and California threatened

listed species. These fox are believed to have ranged historically from southern Kern County to Contra Costa and Stanislaus Counties in the San Joaquin Valley (DFG 2002). They inhabited several San Joaquin Valley vegetation communities, including annual grassland and a variety of scrub habitats. Today, San Joaquin kit fox populations are extremely fragmented. In their northern range, kit fox are found primarily in foothill grassland, oak savannah, and adjacent agricultural areas. In the southern range, kit fox inhabit grassland and scrubland communities, including those that have been modified by development, such as with oil exploration, wind turbines, agricultural and grazing (USFWS 2005).

San Joaquin kit fox are primarily carnivorous, feeding on small mammals (black-tailed jackrabbit [*Lepus californicus*], desert cottontail [*Sylvilagus audubonii*], kangaroo rat [*Dipodomys sp.*], and ground squirrel [*Spermophilus sp.*]), insects, reptiles, ground-nesting birds, and bird eggs (DFG 2002). Dens are used for temperature regulation, shelter from adverse weather, protection from predators, and refuge for pups. Kit fox dig dens in open, level areas with loose-textured soils. However, kit fox also use dens constructed by other animals as well as man-made structures, such as culverts, abandoned pipelines, or banks in sumps or roadbeds. Kit fox often change dens; so many different dens may be used throughout the year (USFWS 2005).

Adult breeding pairs of kit fox stay together throughout the year. Females begin to clean and enlarge pupping dens between September and October and mating occurs between December and March. Litters of typically two to six pups are born in February or March (DFG 2002). Pups emerge from the den about one month later. Disturbance or loss of dens, fragmentation of habitat, hunting, trapping, off-road vehicles, and use of rodenticides and other poisons contribute to San Joaquin kit fox decline (USFWS 2005).

Occurrence of San Joaquin kit fox is documented on the CNDDB within one mile of the project location. Because of persistent human disturbance (i.e., active agricultural practices) and lack of suitable burrows onsite, it is unlikely this species inhabits the project area. However, the City of Greenfield General Plan acknowledges that San Joaquin kit fox are known from the vicinity of the planning area and further states that although habitat quality in the City of Greenfield is thought to be poor, it is possible this species occasionally forages within the planning area (City of Greenfield 2005).

SENSITIVE HABITATS

Sensitive habitats include:

a) areas of special concern to resource agencies,
b) areas protected under CEQA,
c) areas designated as sensitive natural communities by DFG,
d) areas outlined in Section 1600 of the California Fish and Game Code,

e) areas regulated under Section 404 of the federal Clean Water Act (CWA), and
f) areas protected under local regulations and policies.

Sensitive habitats were not observed within or immediately adjacent to the project area neither during the site reconnaissance nor during subsequent review of aerial photography.

JURISDICTIONAL WATERS

The definition and regulatory framework of jurisdictional waters are described in the 'Clean Water Act, Section 404' portion of this chapter (see **Section 3.4.2**). No potentially jurisdictional waters were observed within or immediately adjacent to the project area either during the site reconnaissance or during subsequent review of aerial photography.

WILDLIFE CORRIDORS

Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Corridors are present in a variety of habitats and link otherwise fragmented acres of undisturbed area. Maintaining the continuity of established wildlife corridors is important to sustain species with specific foraging requirements, preserve a species' distribution potential, and retain diversity among many wildlife populations. Therefore, resource agencies consider wildlife corridors to be a sensitive resource. No known wildlife migration routes or corridors occur within the project site or would be significantly adversely affected by implementation of the proposed project.

3.4.2 REGULATORY FRAMEWORK

This section lists specific environmental review and consultation requirements and identifies permits and approvals that must be obtained from local, state, and federal agencies before implementation of the proposed project.

FEDERAL

Endangered Species Act

Provisions of the Federal Endangered Species Act (FESA), as amended (16 USC 1531), protect federally listed threatened and endangered species and their habitats from unlawful take. "Take" under the FESA includes activities such as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The USFWS regulations define harm to include some type of "significant habitat modification or degradation." The U.S. Supreme Court ruled on June 29, 1995, that "harm" may include habitat modification "...where it actually kills or injures wildlife by significantly impairing

essential behavioral patterns, including breeding, feeding or sheltering." For projects with a federal nexus, Section 7 of the FESA requires that federal agencies, in consultation with USFWS or NOAA Fisheries, use their authorities to further the purpose of FESA and to ensure that their actions are not likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of critical habitat. Section 10(a)(1)(B) allows non-federal entities to obtain permits for incidental taking of threatened or endangered species through consultation with USFWS or NOAA Fisheries.

Clean Water Act, Section 404

The objective of the Clean Water Act (CWA 1977, as amended) is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Discharge of fill material into "waters of the U.S." including wetlands, is regulated by the ACOE under Section 404 of the federal Clean Water Act (33 USC 1251-1376). ACOE regulations implementing Section 404 define "waters of the U.S." to include intrastate waters, including lakes, rivers, streams, wetlands, and natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce. Wetlands are defined for regulatory purposes as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3; 40 CFR 230.3). The placement of structures in "navigable waters of the U.S." is also regulated by the ACOE under Section 10 of the federal Rivers and Harbors Act (33 USC 401 et seq.). Projects are permitted under either individual or general (e.g., nationwide) permits. Specific applicability of permit type is determined by the ACOE on a case-by-case basis.

In 1987 the ACOE published a manual that standardized the manner in which wetlands were to be delineated nationwide. To determine whether areas that appear to be wetlands are subject to ACOE jurisdiction (i.e., "jurisdictional" wetlands), a wetlands delineation must be performed. Under normal circumstances, positive indicators from three parameters, (1) wetland hydrology, (2) hydrophytic vegetation, and (3) hydric soils must be present to classify a feature as a jurisdictional wetland. In addition to verifying wetlands for potential jurisdiction, the ACOE is responsible for the issuance of permits for projects that propose filling or discharge to wetlands. Any permanent loss of a jurisdictional wetland as a result of project construction activities is considered a significant impact.

Migratory Bird Treaty Act

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The vast majority of birds found in the study area are protected under the MBTA. Thus, project construction has the potential to directly take nests, eggs, young or individuals of these protected

species. Further, construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to the abandonment of nests, a violation of the MBTA.

Bald Eagle Protection Act

The bald eagle and golden eagle are federally protected under the Bald Eagle Protection Act (16 U.S.C. 668-668c). It is illegal to take, possess, sell, purchase, barter, offer to sell or purchase or barter, transport, export or import at any time or in any manner a bald or golden eagle, alive or dead; or any part, nest or egg of these eagles unless authorized by the Secretary of the Interior. Violations are subject to fines and/or imprisonment for up to one year. Active nest sites are also protected from disturbance during the breeding season.

STATE

California Endangered Species Act

Under the California Endangered Species Act (CESA), DFG has the responsibility for maintaining a list of endangered and threatened species (California Fish and Game Code 2070). DFG maintains a list of "candidate species" which are species that DFG formally notices as being under review for addition to the list of endangered or threatened species. DFG also maintains lists of "species of special concern" which serve as species "watch lists." Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project study area and determine whether the proposed project will have a potentially significant impact on such species. In addition, DFG encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of CESA. "Take" of protected species incidental to otherwise lawful management activities may be authorized under *California Fish and Game Code Section 206.591*. Authorization from DFG would be in the form of an Incidental Take Permit.

California Regional Water Quality Control Board

Clean Water Act, Section 401 Water Quality Certification

Section 401 of the Clean Water Act of 1977

Section 401 of the Clean Water Act requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent

limitations and water quality standards. The Central Coast Regional Water Quality Control Board (in California) regulates section 401 requirements for the project area.

California Department of Fish and Game

Streambed Alteration Agreement (Sections 1600-1607 of the California Fish and Game Code)

State and local public agencies are subject to Section 1602 of the California Fish and Game Code, which governs construction activities that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the DFG. Under Section 1602, a discretionary Stream Alteration Agreement permit from the DFG (Region 3 for the proposed project) must be issued by the DFG to the project developer prior to the initiation of construction activities within lands under DFG jurisdiction. As a general rule, this requirement applies to any work undertaken within the 100-year floodplain of a stream or river containing fish or wildlife resources.

Native Plant Protection Act

The Native Plant Protection Act (*California Fish and Game Code Section. 1900-1913*) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered (as defined by DFG). An exception to this prohibition in the Act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify DFG and give that state agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed (*Fish and Game Code, § 1913* exempts from "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way"). Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

Birds of Prey

Under *Section 3503.5 of the California Fish and Game Code* it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

"Fully Protected" Species

California statutes also accord "fully protected" status to a number of specifically identified birds, mammals, reptiles, and amphibians. These species cannot be "taken," even with an incidental take permit. Section 3505 of the California Fish and Game Code makes it unlawful to "take" "any aigrette or egret, osprey, bird of paradise, goura, numidi, or any

part of such a bird." Section 3511 protects from "take" the following "fully protected birds": (a) American peregrine falcon (*Falco peregrinus anatum*); (b) brown pelican (*Pelecanus occidentalis*); (c) California black rail (*Laterallus jamaicensis coturniculus*); (d) California clapper rail (*Rallus longirostris obsoletus*); (e) California condor (*Gymnogyps californianus*); (f) California least tern (*Sterna albifrons browni*); (g) golden eagle; (h) greater sandhill crane (*Grus canadensis tabida*); (i) light-footed clapper rail (*Rallus longirostris levipes*); (j) southern bald eagle (*Haliaeetus leucocephalus leucocephalus*); (k) trumpeter swan (*Cygnus buccinator*); (l) white-tailed kite (*Elanus leucurus*); and (m) Yuma clapper rail (*Rallus longirostris yumanensis*).

California Fish and Game Code Section 4700 identifies the following "fully protected mammals" that cannot be "taken": (a) Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*); (b) bighorn sheep (*Ovis canadensis*), except Nelson bighorn sheep (subspecies *Ovis canadensis nelsoni*); (d) Guadalupe fur seal (*Arctocephalus townsendi*); (e) ring-tailed cat (genus *Bassariscus*); (f) Pacific right whale (*Eubalaena sieboldi*); (g) salt-marsh harvest mouse (*Reithrodontomys raviventris*); (h) southern sea otter (*Enhydra lutris nereis*); and (i) wolverine (*Gulo gulo*).

Fish and Game Code Section 5050 protects from "take" the following "fully protected reptiles and amphibians": (a) blunt-nosed leopard lizard (*Crotaphytus wislizenii silus*); (b) San Francisco garter snake (*Thamnophis sirtalis tetrataenia*); (c) Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*); (d) limestone salamander (*Hydromantes brunus*); and (e) black toad (*Bufo boreas exsul*).

Fish and Game Code Section 5515 also identifies certain "fully protected fish" that cannot lawfully be "taken" even with an incidental take permit. The following species are protected in this fashion: (a) Colorado River squawfish (*Ptychocheilus lucius*); (b) thicktail chub (*Gila crassicauda*); (c) Mohave chub (*Gila mohavensis*); (d) Lost River sucker (*Catostomus luxatus*); (e) Modoc sucker (*Catostomus microps*); (f) shortnose sucker (*Chasmistes brevirostris*); (g) humpback sucker (*Xyrauchen texanus*); (h) Owens River pupfish (*Cyprinoden radiosus*); (i) unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*); and (j) rough sculpin (*Cottus asperrimus*).

LOCAL

City of Greenfield General Plan

The City of Greenfield General Plan identifies specific goals, policies, and programs regarding biological resources. Goals and policies outlined in the biological resources section of the General Plan are as follows:

Goal 7.5 Encourage preservation of important ecological and biological resources, including wildlife habitat.

Policy 7.5.1 Use land use planning to reduce the impact of development on important ecological and biological resources identified during application review and analysis.

Policy 7.5.2 Encourage preservation of portions of important wildlife habitats that would be disturbed by major development.

Policy 7.5.3 Develop open space uses in an ecologically sensitive manner.

Policy 7.5.4 Development in sensitive habitat areas should be avoided or mitigated to the maximum extent possible.

Table 3.4-2 analyzes the proposed project with respect to City of Greenfield General Plan policies and programs.

TABLE 3.4-2
CITY OF GREENFIELD GENERAL PLAN POLICIES REGARDING BIOLOGICAL RESOURCES

City of Greenfield General Plan Policy	Is Project Consistent with General Plan?	Analysis
7.5.A Prior to development, areas with potential wildlife habitat shall be surveyed for special status plant and/or animal species. If any special status plant or animal species are found in areas proposed for development, the appropriate resource agencies shall be contacted and species-specific management strategies established to ensure the protection of the particular species.	Yes	A site reconnaissance was performed by PMC biologists on November 11, 2005. No special status plant or animal species were observed.
7.5.B Participate with regional, state, and federal agencies and organizations to establish and preserve open space that provides habitat for local wildlife.	Yes	This document shall be circulated to agencies for comment as per CEQA regulations. Responses to agency concerns shall subsequently be addressed. Alteration of the planned development may be warranted based on agency review of the project. Agency recommendations regarding biological resources shall be implemented to the maximum extent possible.
7.5.C At the discretion of the City, development proposals will be required to submit detailed biological resource assessments as part of the application or CEQA review process. Projects shall demonstrate compliance with the recommendations of those assessments.	Yes	Information presented in this chapter of the EIR was obtained and analyzed by a qualified biologist as part of a biological resource investigation of the proposed project area. Further documentation shall be submitted, if necessary, at the request of the City.
7.5.D The City shall explore the feasibility of a city-wide habitat mitigation fee as an alternative to site-specific mitigation requirements.	Yes	To date, a city-wide habitat mitigation fee program has not been implemented and would therefore not be applicable to the proposed development.

Notes: CEQA- California Environmental Quality Act, EIR- Environmental Impact Report

Local Land Use and Development Codes

Monterey County and the City of Greenfield have established ordinances related to biological resources with respect to development within their respective planning areas. The analysis presented in this section has been completed in accordance with these ordinances.

3.4.3 IMPACTS AND MITIGATION MEASURES

A discussion of potential impacts and an evaluation of their significance to biological resources related to the Greenfield South End addition and development is included in the following sections.

STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines (Appendix G) and City of Greenfield ordinances. For the purposes of this EIR, impacts are considered significant if the following could result from implementation of the proposed project:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, endangered, threatened, or other special status in local or regional plans, policies and regulations, or by the DFG or USFWS;

2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies and regulations, or by the DFG or USFWS;

3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, coastal, riverine, stream, marsh, vernal pool, etc.) through direct removal, filling, hydrological interruption, or other means;

4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

5. Conflict with any local polices or ordinances protecting biological resources, such as Monterey County or City of Greenfield ordinance standards;

6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan;

7. Substantially reduce the habitat of a fish, wildlife, or plant species or cause a species to drop below self-sustaining levels; or

8. Directly affect species protected under provisions of the Migratory Bird Treaty Act.

An evaluation of the significance of potential impacts on biological resources must consider both direct effects to the resource as well as indirect effects in a local or regional

context. Potentially significant impacts would generally result in the loss of a biological resource or obviously conflict with local, state, or federal agency conservation plans, goals, policies, or regulations. Actions that would potentially result in a significant impact locally may not be considered significant under CEQA if the action would not substantially effect the resource on a population-wide or region-wide basis.

METHODOLOGY

Available information pertaining to biological resources within the project action area, which refers to the area directly or indirectly affected by the proposed action, was reviewed during this analysis, including (but not limited to):

- Aerial photography of the project location;
- City of Greenfield General Plan (2005);
- CNPS, Inventory of Rare and Endangered Plants for the Greenfield, North Chalone Peak, Paraiso Springs, Pinalito Canyon, Reliz Canyon, San Lucas, Soledad, Thompson Canyon, and Topo Valley topographic quadrangles (2005);
- DFG, California Natural Diversity Database records for the Greenfield, North Chalone Peak, Paraiso Springs, Pinalito Canyon, Reliz Canyon, San Lucas, Soledad, Thompson Canyon, and Topo Valley topographic quadrangles (2003);
- DFG, California Wildlife Habitat Relationships database (2002);
- eNature® Field Guides Online for the California Central Coast Range, Including Monterey County (2005);
- The Jepson Manual: Higher Plants of California (Hickman 1993);
- Local Land Use and Development Code ordinances;
- National Audubon Society, Field Guide to California (Alden et.al. 1998);
- USFWS, list of Federal Endangered and Threatened Species that may be affected by projects in Monterey County (2005); and
- USGS, 7.5 minute Greenfield topographic quadrangle.

SITE RECONNAISSANCE

Pacific Municipal Consultants biologists surveyed the project area on November 11, 2005. Field investigations included a general inspection of the project site to adequately characterize existing habitat with emphasis on areas with the potential to support special status species or critical habitats. A pedestrian survey was also conducted for general plant and wildlife species. Plants species noted during the site inspection were limited to roadside ruderal grasses and crops. Wildlife species observed included:

- Brewer's blackbird (Euphagus cyanocephalus),
- house finch (Carpodacus mexicanus),
- house sparrow (Passer domesticus),
- killdeer (Charadrius vociferus),

- red-tailed hawk (Buteo jamaicensis),
- red-winged blackbird (Agelaius phoeniceus),
- and various insects.

PROJECT IMPACTS AND MITIGATION MEASURES

Project components were considered in evaluating and assessing the potential impacts to biological resources. Construction of the proposed project has the potential to directly or indirectly affect biological resources as well as contribute to cumulative impacts. Potential impacts to biological resources can be temporary, long-term, or permanent, depending on the effect of project activities on an individual resource.

Potential Adverse Effect on Special Status Species

Impact 3.4-1 Implementation of the proposed project would result in temporary and direct disturbance to nesting raptors and migratory birds (including bank swallow). This would be considered a **potentially significant** impact.

Habitat at the site provides suitable nesting and foraging opportunities for many avian species, including some raptors and migratory birds. Raptors and raptor nests are considered to be a special resource by federal and state agencies and are protected under the MBTA and California Code of Regulations. All migratory birds are also protected under the MBTA. Project implementation would impact area that provides suitable habitat for these avian species.

Construction activities that require the disturbance of trees and vegetation could cause direct impact to nesting raptor and migratory birds. Removal of habitat at the project site would be considered a direct and significant impact if sensitive bird species were taken or deterred from traditional nesting or foraging locations. Construction could also result in noise, dust, increased human activity, and other indirect impacts to nesting raptors or migratory bird species in the project vicinity. Potential nest abandonment, mortality to eggs and chicks, as well as stress from loss of foraging areas are also considered potentially significant impacts.

Mitigation Measure

MM 3.4-1 If proposed grading, site preparation, or construction activities are planned to occur during the nesting seasons for local avian species (typically March 1st through August 31st), the project applicant shall, prior to issuance of grading or building permits, retain a qualified biologist approved by the City of Greenfield to conduct a focused survey for active nests of raptors and migratory birds within and no less than 100-feet outside project boundaries, where possible, of the construction area, no more than 30 days prior to ground disturbance. If an active nest is located during preconstruction

surveys, USFWS and/or DFG (as appropriate) shall be notified regarding the status of the nest. Furthermore, construction activities shall be restricted, as necessary, to avoid disturbance of the nest until it is abandoned or the biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 100-feet around the nest) or alteration of the construction schedule. No action is necessary if construction occurs during the nonbreeding season (generally September 1st through February 28th).

Implementation of the above mitigation measure would reduce impacts to special status species to a **less than significant** level.

Impact 3.4-1 Development of the proposed project would result in temporary disturbance and permanent alteration of site conditions that could support transient San Joaquin kit fox. This would be considered a **potentially significant** impact.

San Joaquin kit fox, a special status wildlife species, could occasionally occur on the project site as a transient species. Habitat at the project location typically does not provide suitability for reproduction, cover, and foraging by this species. However, San Joaquin kit fox is recorded on the CNDDB as occurring within one mile of the project location and could potentially forage within nearby areas of the City of Greenfield. Therefore, implementation and construction of the proposed project could impact transient San Joaquin kit fox. Special status wildlife species are considered to be a sensitive resource by federal and state resource agencies, so alteration of the project site is considered a **potentially significant** impact.

Mitigation Measure

MM 3.4-2: During construction activities the project applicant shall use 'best management practices' to ensure no incidental take of San Joaquin kit fox occurs during construction or from project-related activity onsite. The recommended measures (as outlined in the USFWS Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance [June 1999]) include:

a) Restrict project-related vehicle traffic to established roads or other designated areas onsite. Vehicles should observe a 20-mile per hour speed limit in all project areas (except on paved pre-existing roads with an established speed limit). Off-road traffic outside of the designated project areas should be prohibited;

b) To the extent possible, night-time construction should be minimized;

c) All excavated, steep-walled holes or trenches more than two feet deep shall be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, each shall be thoroughly inspected for trapped animals that should be allowed to escape before proceeding;

d) All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored open onsite for one or more nights shall be thoroughly inspected for animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way;

e) All food-related trash items, such as wrappers, cans, bottles, and food scraps, shall be disposed of in closed containers and removed at least once a week from the project site;

f) No firearms shall be allowed on the project site;

g) No pets (i.e., dogs, cats, etc.) shall be permitted onsite;

h) Use of rodenticides and herbicides in project areas shall be prohibited. If rodent control must be conducted, zinc phosphide is preferred because of a proven (and recognized by the USFWS) lower risk to kit fox.

Furthermore, the applicant shall retain a qualified biologist to present the importance of following best management practices to reduce impacts to possible fox (as well as other sensitive species) during project implementation. A fact sheet conveying this information shall be prepared by the biologist and distributed to any personnel who may enter the project site. Should a kit fox be found onsite, the biologist shall be notified immediately in order to outline additional avoidance measures that should be implemented as well as consult with regulatory agencies.

Implementation of the above mitigation measure would reduce impacts to the special status species (San Joaquin Kit Fox) to a **less than significant** level.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Impact 3.4-3 Development of the project location, in addition to anticipated cumulative development in the project vicinity, would result in disturbance to special status species and sensitive habitats throughout the

region. These impacts would be considered **cumulative and potentially significant**.

As presented in the impact discussion above, implementation of the proposed project would result in a loss of habitat and contribute to biological resource impacts, including disturbance of special status species. Anticipated development and urban expansion of the area is expected to further contribute to these impacts and is considered potentially cumulative significant for impact to biological resources. City-wide impacts of General Plan buildout have been analyzed in the City's General Plan EIR. Findings regarding city-wide impacts have been made and adopted by the City of Greenfield, recognizing long term changes within the City.

Implementation of measures **MM 3.4-1** and **MM 3.4-2** would reduce the project's overall contribution to cumulative biological resource impacts to a **less than significant** level. As mitigated, and based on the limited biological resources and habitat values at the site, the project's contribution is not cumulatively considerable. The project addresses site-specific biological resources consistent with the implementation measures set forth in the General Plan.

REFERENCES/DOCUMENTATION

Alden, P. et.al. 1998. National Audubon Society Field Guide to California. Chanticleer Press, Inc. New York, CA.

California Department of Fish and Game (DFG). California Interagency Wildlife Task Group. 2002. CWHR version 8.0 personal computer program. Sacramento, CA.

DFG. California Natural Diversity Database. 2003. CNDDB RareFind version 3.0.3 personal computer program. Sacramento, CA.

DFG. Wildlife and Habitat Data Analysis Branch. 2004. Wildlife Habitats by County. On-line Inventory. Sacramento, CA.

California Native Plant Society (CNPS). 2005. Inventory of Rare and Endangered Plants. Online Inventory-6th Edition. Sacramento, CA.

City of Greenfield. 2005. City of Greenfield General Plan.

eNature®. 2005. Field Guides Online for the California Central Coast Range, Including Monterey County. www.enature.com.

Hickman, J., ed. 1993. The Jepson manual: Higher Plants of California. University of California Press. Berkeley, CA.

Stokes, D. W. and L. Q. Stokes. 1996. Field Guide to Birds: Western Region. Little, Brown and Company, Boston, MA.

U.S. Fish and Wildlife Service (USFWS). 2005. Federal Endangered and Threatened Species that May Be Affected by Projects in Monterey County. Ventura, CA.

U.S. Fish and Wildlife Service (USFWS). Standardized Recommendations for the Protection of the San Joaquin Kit Fox Prior To Or During Ground Disturbance. Sacramento Fish and Wildlife Office. June 1999.

USFWS. Online Species Account: San Joaquin Kit Fox (Vulpes macrotis mutica). Sacramento, CA. 2005.

Section 3.5
Cultural Resources

This section of the EIR considers and evaluates the potential impacts of the proposed project on cultural and paleontological resources. Cultural resources include historic buildings and structures, historic districts, historic sites, prehistoric and historic archaeological sites, and other prehistoric and historic objects and artifacts. Paleontological resources include vertebrate, invertebrate, or plant fossils.

3.5.1 EXISTING SETTING

PREHISTORY

Archaeological work in the Central Coast region dates to the late 1940s. Research during this period is highlighted by the work of:

- Pilling (1948) who identified numerous sites in Monterey County;
- Broadbent (1951a, 1951b) who tested the Berwick Park site, CA-MNT-107; and
- Heizer in 1951and in 1952 by Beardsley at the Willow Creek site, CA-MNT-281 and –282 (cf., Pohorecky 1964, 1976).

During the 1960s and 1970s research continued in the region, and also included inland surveys and excavations in areas such as the Pinnacles National Monument. Most archaeological work in the region, however, has been conducted along or near the coast, and there is limited archaeological research for the project area. Regardless, this work provides a general context for the area.

Recent archaeological work in the area generally involves the development of regional chronologies and models of culture change for Monterey Bay and its immediate environs. Significant contributions in this regard have been presented by: Breschini (1983); Breschini et al. (1983); Breschini and Haversat (1992); Cartier (1993); Dietz (1985); Dietz et al. (1988); Dietz and Jackson (1981); Hildebrandt and Mikkelsen (1993); Jones and Hylkema (1988); Jones (1993); Jones et al. (1992); Jones and Jones (1992); and Patch and Jones (1984). This work has resulted in the development of a series of seven cultural periods primarily for Monterey Bay, but also includes the Central Coast region in proximity to it (cf., Dietz et al. 1988; Jones and Hylkema 1988; Hylkema 1991; Hildebrandt and Mikkelsen 1993; and Jones 1993). These seven periods and their associated dates are: Paleoindian 10,000–8,000 B.C.; Millingstone 8,000–3,500 B.C.; Early 3,500–600 B.C.; Middle 600 B.C.–A.D. 1200; Late A.D. 1200–1769; and Historic. It is possible that archaeological resources related to any of these periods may occur in the project area.

ETHNOGRAPHY

At the time of Euroamerican contact (ca. 1769), Native Americans identified as Salinan occupied the area from Soledad in the north to near San Luis Obispo in the south and

extending from the coast to the eastern edge of the Salinas River Valley. Salinan peoples spoke a Hokan language, but there is scarce information concerning their culture. The major sociopolitical unit of Salinan was the village. Each village was an autonomous unit that was ruled by a chief. The position of chief appears to have been patrilineal (i.e., passed from father to son).

Salinan technology primarily highlights exploitation of terrestrial resources, although both coastal and inland groups engaged in fishing. Hunting weaponry and facilities included sinew-backed and self-bows; wooden arrow shafts; projectile points and other flaked stone tools; and nets. Salinan utilitarian tools and facilities included baskets, (both coiled and twined), for food and water collection, food storage, and food preparation; bowl mortars; pestles; metates; stone bowls; and bone awls. Clothing included tule aprons, rabbit skin or otter skin cloaks, and basket hats.

Salinan peoples generally experienced friendly relations with neighboring cultural groups such as the Yokuts to the east and Chumash to the south, but were hostile toward the Costanoans to the north. Interaction between Salinan, Yokuts, and Chumash involved trade and use of each other's territory to acquire resources. On the other hand, it appears that Salinan and Costanoans were in competition with each other regarding access to trade routes, and their interactions were generally unfriendly. (Hester 1978)

HISTORY

Sebastian Vizcaino's landing at present day Monterey in 1602 is the earliest documented contact with Native Americans in the area. Following Vizcaino's landing, other Spanish ships may have stopped at Monterey, but contact was minimal until the initial overland exploration of the area by Gaspar de Portolá in 1769. Portolá's expedition followed the coast, while subsequent exploration of the region by Pedro Fages in 1770 and 1772, Fernando Javier de Rivera in 1774, and Juan Bautista de Anza in 1776 traveled on the east side of the Santa Cruz Mountains, along a route which became known as El Camino Real.

Gaspar de Portolá founded Monterey in 1769, and in 1770 Padre Junipero Serra founded Mission San Carlos de Borromeo, which was later relocated to Carmel. Other missions, such as Mission Santa Cruz, founded in 1791, Mission San Juan Bautista, founded in 1797, Mission San Antonio de Padua, founded in 1771, Mission San Miguel, founded in 1797, and Mission Soledad, founded in 1791 are also located in the general area and had a dramatic effect on Native American populations. The Spanish attempted to convert the Native American population to Catholicism and incorporate them into the "mission system." The process of missionization disrupted traditional Salinan cultural practices, and they were generally slow to adapt to the mission system. The Spanish, however, were intent on implementing it, and by 1810 most Native Americans in the area were either incorporated or relocated into local missions. This factor, coupled with exposure to European diseases, virtually ended the traditional life of Native Americans in the area.

The Mexican period (1821-1848) in California is an outgrowth of the Mexican Revolution, and its accompanying social and political views affected the mission system. In 1833 the missions were secularized and their lands divided among the *Californios* as land grants called *Ranchos*. These *ranchos* facilitated the growth of a semi-aristocratic group that controlled the larger *ranchos*. Owners of *ranchos* used local populations, including Native Americans, essentially as forced labor to accomplish work on their large tracts of land. Consequently, Salinan, and other Native American groups across California, were forced into a marginalized existence as *peons* or *vaqueros* on the large *ranchos*. *Ranchos* in the general project area include: San Vincente (Munrass); Ex-Mission Soledad; Mission Soledad; Los Coches; Arroyo Seco (Torre); Posa de los Ositos; and San Lorenzo (Soberanes).

The end of the Mexican-American War and the signing of the Treaty of Guadalupe Hidalgo in 1848 marked the beginning of the American period (1848-Present) in California history. The onset of this period, however, did nothing to change the economic condition of the Native American populations working on the *ranchos*. The latter half of the nineteenth century witnessed an ongoing and growing immigration of Anglo-Americans into the area, an influx also accompanied by regional cultural and economic changes. Indeed, Anglo-American culture expanded at the expense of Hispanic culture. Dispersed farmsteads slowly replaced the immense Mexican ranchos, and the farming of various crops slowly replaced cattle ranching as the primary economic activity in the region. Larger and larger tracts of land were opened for farming, and these agricultural developments demanded a large labor force, sparking a new wave of immigration into the region. These trends (i.e., expansion of agriculture and immigration of workers to work on farms) have continued into the twentieth century, and generally characterize the development of the area to the present. Currently, the City of Greenfield is a center for agricultural production in the region.

PROJECT SITE SETTING

Records Search

A records search at the Northwest Information Center (NWIC) at Sonoma State University, Rohnert Park; a sacred lands search conducted by the Native American Heritage Commission; consultation with the Native American community; and archival research.

Archaeological and historical investigations for the proposed project area identified that the area is not previously surveyed, and that the project area is adjacent to historic site P-27-002322, which is the alignment of Highway 101. The current alignment for Highway 101 was built over the historic alignment.

A search of the University of California Museum of Paleontology (UCMP) collections database for the proposed project area did not identify any evidence of paleontological resources. In addition, the geography and geology of the area suggest that it is not sensitive for paleontological resources.

Field Survey

PMC cultural resources staff conducted of a "windshield survey" of the project areas that could reasonably be expected to contain visible cultural resources. The survey identified that there are buildings and structures on the project site. The project site contains one private residence (a mid 20th century ranch style home) and one metal shed on the northern portion of APN 221-011-017, commercial structures located at the southwest portion of the project site, on APN 221-011-018, used for agricultural storage, and a large drainage basin located in the central portion of APN 221-011-017. The project area is disturbed by agriculture (i.e., the area consists of active agricultural fields), and the area does not appear to be archaeologically sensitive for either prehistoric or historic sites and their associated artifacts. Due to the fact the project area undergone years of agricultural production, including tilling, paleontological resources are unlikely to be found on site.

3.5.2 REGULATORY FRAMEWORK

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. This determination applies to those resources that meet significance criteria qualifying them as "unique," "important," listed on the California Register of Historic Resources (CRHR), or eligible for listing on the CRHR. If the lead agency determines that a project may have a significant effect on an archaeological or historical resource, the project is determined to have a significant effect on the environment, and these effects must be addressed. If it is determined that a cultural resource does not meet any of the qualifying criteria as a historical resource or unique archaeological resource, it need not be considered further in the planning process. CEQA also provides for the identification and protection of significant paleontological resources.

CEQA emphasizes avoidance of archaeological and historical resources as the preferred means of reducing potential significant effects. If avoidance is not feasible, an excavation program, restoration, rehabilitation, or some other form of mitigation must be developed to mitigate any impacts.

LOCAL

City of Greenfield General Plan

The City of Greenfield General Plan provides sound goals and policies for the identification and protection of significant cultural resources. The General Plan Goals and Policies include:

Goal 2.5: Encourage the protection of historic, landmark or other structures significant to the City.

Policy 2.5.1: Review all development proposals involving historic buildings to ensure that modifications or other treatments are consistent with the historic architecture and authenticity of the building, and consistent with Secretary of the Interior standards.

Policy 2.5.2: Support redevelopment and rehabilitation efforts for historic resources in the community.

Policy 2.5.3: Review proposed infill development projects for consistency with the architectural character of the surrounding neighborhood and structures.

Policy 2.5.4: Consider reducing or waiving certain development requirements (where public safety and the general welfare is not impaired) to encourage the reuse of existing significant or historic structures.

Goal 7.6: Encourage preservation of cultural resources within the Planning Area.

Policy 7.6.1: Preserve areas that have identifiable and important archaeological or pale ontological significance.

Goal 7.7: Preserve and enhance historic structures and features within the community.

Policy 7.7.1: Promote the compatibility of new development located adjacent to existing structures of historic significance with the architecture and site development of the historic structure.

Policy 7.7.2: Respect the character of the building and it's setting during the remodeling and renovation of facades of historic buildings.

Policy 7.7.3: Encourage the use of the State Historic Building Code for historic buildings and other structures that contribute to the City's historic character.

Policy 7.7.4: Recognize the value of Greenfield's historic resources as an economic development tool.

Policy 7.7.5: Preserve the integrity of historic structures and the parcels on which they are located by properly implementing applicable design, building, and fire codes.

Policy 7.7.6: Work with property owners to preserve historic features within the community.

Policy 7.7.7: Encourage owners of eligible historic properties to apply for State and Federal registration of these sites and to participate in tax incentive programs for historic restoration.

These goals and policies emphasize avoidance of cultural resources as the preferred means of reducing potentially significant effects.

Monterey County General Plan

The Monterey County General Plan provides goals, objectives, and policies for the identification and protection of significant cultural resources. The General Plan goals, objectives, and policies are relevant due to the sphere of influence amendment and annexation request by the City of Greenfield for lands that are currently within Monterey County jurisdiction. The General Plan Goals, Objectives, and Policies include: Goal 12, Objectives 12.1 and 12,2, and Policies 12.1.1-12.1.7; and Goal 52, Objectives 52.1, 52.2, and 52.3, and Policies 52.1.1-52.1.8, 52.2.1 and 52.2.2, and 52.3.1. These goals, objectives, and policies emphasize avoidance of cultural resources as the preferred means of reducing potentially significant effects.

Monterey County Zoning Ordinance

Monterey County zoning ordinances provide for the identification and protection of significant cultural resources. Due the SOI amendment and annexation request as part of the proposed project for lands currently within Monterey County jurisdiction the zoning ordinances are relevant to the proposed project site. These ordinances include Title 21.54, 21.64.270, and 21.66.050. These ordinances emphasize avoidance of cultural resources as the preferred means of reducing potentially significant effects.

3.5.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the application of the following State CEQA Guidelines Appendix G and Section 15065(a) thresholds of significance:

1. Cause a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines Section 15064.5;

2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines Section 15064.5;

3. Directly or indirectly destroy a unique paleontological resource or site or unique geological feature; or,

4. Disturb any human remains, including those interred outside of formal cemeteries.

CEQA, at Public Resources Code 21083.2, requires planning agencies to determine if a project may have a significant effect on historical resources and unique archaeological resources. CEQA, at §15064.5, defines a significant effect as one that may cause a substantial adverse change in the significance of an historical resource. A "substantial adverse change" means physical demolition, destruction, relocation or alteration of the resource or its immediate surroundings such that the significance of an historical resource is materially impaired. The Lead Agency shall identify potentially feasible mitigation measures to mitigate significant adverse changes in the significance of an historical resource.

CEQA also requires planning agencies to consider the effects of a project on unique archaeological resources. If an archaeological artifact, object, or site meets the definition of a unique archaeological resource, then the artifact, object, or site must be treated in accordance with the special provisions for such resources as presented at Public Resources Code 21083.2(e).

The CEQA guidelines at section 15064.5 describe an "historical resource" as:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register of Historical Resources.

2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code, or identified as significant in an historical resource survey meeting the requirements in Section 5024.1(g) of the Public Resources Code shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources.

Public Resources Code 5024.1 presents criteria for determining the eligibility of a cultural resource for inclusion in the California Register of Historical Resources (CRHR). These criteria include:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. 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; or

4. Has yielded, or may yield, information important in prehistory or history.

Public Resources Code 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site that:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

2. Has a special and particular quality, such as being the oldest of its type or the best available example of its type.

3. Is associated with a scientifically recognized important prehistoric or historic person or event.

METHODOLOGY

Cultural resources staff of PMC conducted archaeological and historical investigations for the South End SOI project area. These investigations included: a records search at the Northwest Information Center (NWIC) at Sonoma State University, Rohnert Park; a sacred lands search conducted by the Native American Heritage Commission; consultation with the Native American community; and archival research.

PMC cultural resources staff conducted of a "windshield survey" of the project areas that could reasonably be expected to contain visible cultural resources.

A search of the University of California Museum of Paleontology (UCMP) collections database for the proposed project area did not identify any evidence of paleontological

resources. In addition, the geography and geology of the area suggest that it is not sensitive for paleontological resources.

PROJECT IMPACTS AND MITIGATION MEASURES

Undiscovered Prehistoric Resources, Historic Resources, and Human Remains

Impact 3.5-1 Approval of the South End SOI Amendment and any potential projects that may result from adopting the amendment could result in impacts to undiscovered prehistoric and historic resources and the inadvertent discovery of human remains. Although their presence is unlikely this is considered a **potentially significant** impact.

According to extensive research and "Windshield Survey" completed, the project area does not appear to be archaeologically sensitive. Onsite investigation and review of maps and records on file at the Northwest Information Center at Sonoma State University did not reveal any archaeological resource on or within the project area. The site has historically been used for agriculture and is heavily disturbed due to discing, tilling and planting, which could destroy or cover cultural and paleontological resources, had they ever been present. The project site is located adjacent to historic site P-27-002322, which is the alignment of Highway 101. However although recorded as significant the existing new Highway 101 was constructed and paved over the historic alignment, therefore there is no significance. The residence and commercial structures located on the project area were identified not to be eligible for historical significance. However, destruction or ground disturbance of undiscovered resources, from project construction could result in **potentially significant** impacts to undiscovered prehistoric and historic resources and human remains.

Mitigation Measures

MM 3.5-1a Should any previously undisturbed cultural, historic or archaeological resources be uncovered in the course of site preparation, clearing or grading activities, all operations within 150 feet of the find shall be halted until such time as a qualified professional archaeologist can be consulted to evaluate the find and recommend appropriate action. If the find is determined to be significant, appropriate mitigation measures shall be formulated and implemented.

MM 3.5-1b In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of Monterey County has determined whether the remains are subject to the coroner's

authority. This is in accordance with Section 7050.5 of the California Health and Safety Code. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of identification. Pursuant to Section 5097.98 of the Public Resource Code, the Native American Heritage Commission will identify a "Native American Most Likely Descendent" to inspect the site and provide recommendations for the proper treatment of the remains and any associated grave goods.

Implementation of **MM 3.5.1a and b** would reduce potential impacts to unknown prehistoric and historic resources and inadvertently discovered human remains to a **less than significant** level.

Paleontological Resources

Impact 3.5-2 Adoption of the Sphere of Influence Amendment and any potential projects that may result from adopting the amendment could result in impacts to undiscovered paleontological resources. This is considered a **potentially significant** impact.

A search of the University of California, Berkeley Museum of Paleontology collections database did not identify any evidence of paleontological resources in the project area. However, there is a possibility of unanticipated and accidental paleontological discoveries within the project area. Unanticipated and accidental paleontological discoveries within the project area considered a **potentially significant** impact.

Mitigation Measures

MM 3.5-2 As a condition of project approval if any paleontological resources (fossils) are discovered during ground disturbing construction activities, all work in the immediate vicinity must stop and the City of Greenfield shall be immediately notified. A qualified paleontologist shall be retained to evaluate the finds and recommend appropriate mitigation measures for the inadvertently discovered paleontological resources.

Implementation of **MM 3.5-2** would reduce impacts on paleontological resources to a **less than significant** level.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Prehistoric, Peleontological, and Historic Resources

Impact 3.5-3 Approval of the SOI Amendment and any potential projects that may result from subsequent development, along with any foreseeable

development in vicinity of the SOI Area, will be site-specific in nature. Cumulative effects will be **less than significant**.

Adoption of the SOI Amendment and any potential projects that may result from adopting the amendment in combination with cumulative development pursuant to General Plan buildout, would likely increase the potential to disturb the local inventory and context of both known and undiscovered cultural resources. Mitigation measures **MM 3.5-1a and b** and **MM 3.5-2** however, would mitigate potential site specific impacts to cultural resources by addressing resources on a case by case basis and applying appropriate mitigation in accordance with state and local laws. With mitigation, and based on the absence of significant features on the site, the sum of cumulative effects will not be more significant than the individual impacts. Therefore, cumulative impacts related to prehistoric, paleontological, and historic cultural resources would be reduced to a **less than significant** level and are not cumulatively considerable.

REFERENCES / DOCUMENTATION

Beck, Warren and Ynez D. Haase. 1974 *Historical Atlas of California*. University of Oklahoma Press, Norman, Oklahoma.

Breschini, G. S. 1983. Models of Population Movements in Central California Prehistory. Coyote Press, Salinas.

Breschini, G. S. and T. Haversat. 1992. Baseline Archaeological Studies at Rancho San Carlos, Carmel Valley, Monterey County, California. Archives of California Prehistory 36. Coyote Press, Salinas.

Breschini, Gary S., Trudy Haversat, and R. P. Hampson. 1983 A Cultural Resources Overview of the Coast and Coast-Valley Study Areas. Report prepared for the Bureau of Land Management. Archaeological Consulting, Salinas, California.

Broadbent, S.M. 1951a Field Notes from Site CA-Mnt-101. University of California Archaeological Survey Manuscripts 125.1951b Field Notes from Mnt-107, Berwick Park, Pacific Grove. Manuscript on file at the Pacific Grove Museum, Pacific Grove, California.

The Rumsen of Monterey: an Ethnography from Historical Sources. University of California Archaeological Research Facility Contributions 14. 1972.

Cartier, R. 1993 The Saunders Site: MNT-391. A Littoral Site of the Early Period. Scotts Valley Historical Society, Scotts Valley, California.

Dietz, S. A. 1985 Archaeological Reconnaissance for Pacific Bell Projects NE1841T and NE1843T Located from Olmsted Road to Torero Drive on Highway 68 and from Jackson Street to Del Monte Avenue and Castroville to Boronda Road on Highway 183, Monterey

County, California. Report on file Northwest Information Center, Sonoma State University, Rohnert Park, California.

Dietz, S. A. and T. L. Jackson. 1981 Report of Archaeological Investigations at Nineteen Archaeological Sites for the Stage I Pacific Grove Monterey Consolidation Project of the Regional Sewage System. Prepared for Engineering-Science, Inc.

Dietz, S. A., W. Hildebrandt, and T. L. Jones. 1988 Archaeological Investigations at Elkhorn Slough: CA-MNT-229, a Middle Period Site on the Central California Coast. Papers in Northern California Anthropology. Northern California Archaeology Group. Berkeley.

Fritz, J. and C. Smith. 1978 Archaeological Overview of Pinnacles National Monument, San Benito County, California. Report prepared for the National Park Service, Tucson, Arizona.

Hester, Thomas R. 1978 Salinan. In California, edited by R.F. Heizer, pp. 500-504. Handbook of North American Indians Vol. 8, W.C. Strurtevant, general editor. Smithsonian Institute, Washington, D.C.

Hildebrandt, W.R. and P. Mikkelsen. 1993 Archaeological Test Excavations at Fourteen Sites Along Highways 101 and 152, Santa Clara and San Benito Counties, California, Volume 1. Submitted to Caltrans District 4, Contract No. 0E633-EP. Report S-15442. Report on file Northwest Information Center, Sonoma State University, Rohnert Park, California.

Hoover, M. B., H. E. Rensch, E. G. Rensch, and W. N. Abeloe. 1990 Historic Spots in California. Stanford University Press, Stanford, California.

Jones, T. L. 1993 Big Sur: A Keystone In Central California Culture History. Pacific Coast Archaeological Society Quarterly 10:163-186.

Jones, T. L. and M. Hylkema 1988,Two Proposed Projectile Point Types for the Monterey Bay Area: the A□o Nuevo Long-stemmed and the Rossi Square-stemmed. Journal of California and Great Basin Archaeology 10:163-186.

Jones, T. L. and D.A. Jones 1992 Elkhorn Slough Revisited: Reassessing the Chronology of CA-MNT-229. Journal of California and Great Basin Anthropology 14:159-179.

Jones, T. L., T. Van Bueren, S. Grantham, J. Huddleson, and T. Fung. 1992 Phase II Archaeological Investigations for the Castroville Bypass Project, Monterey County, California. Report on file California Department of Transportation, District 5, San Luis Obispo.

Jones, T. L., T. M. Van Bueren, S. Grantham, J. Huddleson, and T. W. Fung. 1996 Archaeological Test Excavations for the State Highway 1 Widening Project Near Castroville, Monterey, California. Report submitted to Caltrans District 5, San Luis Obispo, California.

Olsen, W.H., L.A. Payen, and J.L. Beck. 1966 An Archaeological Survey of Pinnacles National Monument, San Benito County, California. Report prepared for the National Park Service, San Francisco, California.

Patch, D. and T. L. Jones. 1984 Paleoenvironmental Change at Elkhorn Slough: Implications for Human Adaptive Strategies. Journal of California and Great Basin Anthropology 6(1):19-43.

Pilling, A. R. 1948 Archaeological Survey of Northern Monterey Bay County. University of California Archaeological Survey Manuscripts 106.

Pohorecky, Z.S. 1964 Archaeology of the South Coast Ranges of California. Unpublished Ph.D. Dissertation, Department of Anthropology, University of California, Berkeley.

Archaeology of the South Coast Ranges of California. Contributions of the University of California Archaeological Research Facility 34:1-235.

City of Greenfield. City of Greenfield General Plan. October 2005

County of Monterey. Central Salinas Valley Area Plan. 1987.

This Page Intentionally Left Blank

Section 3.6
Geology, Soils & Geological Hazards

This section of the EIR discusses the geologic setting of the project site and general vicinity and analyzes potential impacts that may result from implementing the project or in the context of these conditions the project. Areas of analysis include surface soils conditions, ground rupture, seismic hazards. The information contained in this section is based on site-specific geologic studies, information from the California Division of Mines and Geology, and U.S. Geologic Survey maps and the Geotechnical Feasibility Investigation prepared by Twining Laboratories Inc. for a portion of the proposed project site.

3.6.1 EXISTING SETTING

GEOLOGY, SOILS AND TOPOGRAPHY

Regional Geologic Setting

The project site is in the central portion of the broad, nearly flat Salinas Valley, located in the Coast Ranges Geomorphic Province of California. The Salinas Valley is bounded by the Santa Lucia Range on the southwest and the Gabilan Range on the northeast. The orientation of these topographic features parallels the region's northwest trending structural grain. The oldest exposed rock unit of the Santa Lucia Range is the Mesozoic and the older metasedimentary rock of the Sur series, which is intruded by granitic plutions of Cretaceous age. A thick section of sedimentary deposits of Tertiary age overlies the older crystalline rock and makes up most of the near-surface bedrock southwest of the Greenfield area. The predominant Tertiary unit in this portion of the range is the marine Monterey Shale of upper and middle Miocene age. Fluvial terraces flank the northeastern edge of the Santa Lucia Range.

In the Gabilan Range to the northeast, Cretaceous granitic basement rock is predominant, with lesser amounts of middle Tertiary (Miocene) volcanic and non-marine sedimentary rocks. To the southeast, the granitic rock overlain primarily by upper Tertiary (Pliocene) to lower Quaternary (Pleistocene) marine sedimentary rocks, with the Plio-Pleistocene Paso Robles Formation especially prevalent.

Project Site Setting

The project site consists of four separate parcels, APN 221-011-017, 018, 071, and 068. Twining Laboratories, Inc. completed a Geotechnical Feasibility Investigation for APN 221-011-017. The Geotechnical Feasibility Investigation analyzed approximately 121 acres of the 171 acre parcel, which is currently used for agricultural row crops. The 50 acres of the parcel not addressed in the Geotechnical Feasibility Investigation would be placed under an agricultural easement as part of the proposed project. The geology of the parcel studied is relative and similar in character to surrounding properties, with similar soils and land use conditions. Therefore, the conclusion and assumptions regarding the information

contained within the Geotechnical Report, City of Greenfield General Plan EIR and other related documents is adequate to assess the potential geotechnical impact related implementation of the entire project area.

TOPOGRAPHY

The project site is in the central portion of the broad, nearly flat Salinas Valley, and is relatively flat and level with no distinct or prominent topographic features. The ground surface elevation is approximately 250 feet above mean sea level (msl).

GROUNDWATER CONDITIONS

The City of Greenfield is located in the Upper Salinas Valley groundwater subasin. This subasin has extremely deep and productive alluvium, and wells can yield of up 4,000 gallons per minute. This subasin has excellent storage and recharge capacity.

According to the geotechnical report completed by Twining Laboratories, groundwater was encountered in two of the 18 sample soil borings taken during the geotechnical investigation, at approximately 44 and 49 feet below the ground surface. A review of available data and personal communication with the Monterey County Water Resources Agency by Twining Laboratories revealed that the historic high for groundwater depth is approximately 40 feet below the ground surface. The sample soil borings were completed to a depth of 50 feet. Water tables are subject to fluctuation over time, depending on seasonal precipitation, irrigation land use climatic conditions and other factors.

FAULTS AND SEISMICITY

Intensity Criteria

Earthquake magnitude is a measure of the total amount of energy released in an earthquake. With increasing magnitude (i.e. larger earthquakes) ground motions are stronger, last longer, and are felt over larger areas. Earthquake intensity is a measure of the effects of earthquake ground motions on people and buildings. Earthquake intensity, however, is often more useful than magnitude when discussing the damaging effects of earthquakes. The most common intensity scale is the Modified Mercalli Intensity scale, which ranges from I to XII. **Table 3.6-1** describes the effects of earthquakes and compares the Richter Scale (magnitude) to the Modified Mercalli scale (intensity).

TABLE 3.6-1
MODIFIED MERCALLI INTENSITY SCALE FOR EARTHQUAKES

Richter Magnitude Scale	Modified Mercalli Scale	Effects of Intensity
0.1-0.9	I	Earthquake shaking not felt.
1.0-2.9	II	Shaking felt by those at rest.
3.0-3.9	III	Felt by most people indoors; some can estimate duration of shaking.
4.0-4.5	IV	Felt by most people indoors. Hanging objects rattle, wooden walls, frames creak.
4.6-4.9	V	Felt by everyone indoors; many estimate duration of shaking. Standing autos rock. Crockery clashes, dishes and glasses rattle. Doors open, close, and swing.
5.0-6.4	VII	People frightened and walls unsteady. Pictures and books thrown, dishes/glass are broken. Weak chimneys break. Plaster, loose bricks and parapets fall.
6.5-6.9	VIII	Difficult to stand, waves on ponds, cohesionless soils slump. Stucco and masonry walls fall. Chimneys, stacks, towers, elevated tanks twist and fall.
7.0-7.4	IX	General fright as people are thrown down. Hard to drive, trees broken, damage to foundations and frames. Reservoirs damaged, underground pipelines broken.
7.5-7.9	X	General panic, ground cracks, masonry and frame buildings destroyed. Bridges destroyed, dams, dikes and embankments damaged. Railroads bent.
8.0-8.4	XI	Large landslides, water thrown, general destruction of buildings; pipelines destroyed; railroads bent.
8.5 +	XII	Total nearby damage, rock masses displaced. Lines of sight/level distorted. Objects thrown into air.

Source: California Department of Mines and Geology

In addition to the Mercalli Scale, faults are classified according to criteria provided by the California Building Code, as identified in **Table 3.6-2**.

TABLE 3.6-2
CALIFORNIA BUILDING CODE FAULT CLASSIFICATIONS

Fault type	Characteristics
A	Faults that have a Richter magnitude potential of 7.0 and a slip rate equal to or greater than 5 mm/year. These types of faults are considered to be active and capable of producing large magnitude events. Most segments of the San Andreas Fault are be classified as a Type A fault.
B	All faults that are not Type A or Type C. Includes most of the active faults in California.
C	Faults that have a Richter magnitude potential of less than 6.5 and a slip rate of less than or equal to 2 mm/year. These faults are considered to be sufficiently inactive and not capable of producing large magnitude events such that potential near-source ground shaking effects can be ignored. Most faults outside of California are Type C.

Source: California Building Code

Seismic Ground Shaking

According to the City of Greenfield *General Plan (2005)* there are no known faults within the vicinity of the project site and the impact for surface rupture is considered very low. The nearest fault line to the proposed project site is the Reiliz/Rinconda Fault system approximately five miles to the west. The San Andreas Fault is located approximately 15 miles to the northeast. No known historical earthquakes have occurred on the Reliez/Rinconada fault; however it is considered an "active" fault.

Ground Rupture

Damage resulting from fault rupture occurs normally where structures are located across fault traces that move at the time of an earthquake. The project site is not located within an Alquist-Priolo Earthquake Fault zone. The potential for ground rupture is considered low.

Liquefaction

Potential seismic hazards that may impact the proposed project site include liquefaction and seismic settlement. Considering the depth of the historical high groundwater measured by the Monterey County Water Resources Agency the depth of groundwater encountered at the site by Twining Laboratories and the presence of non-liquefiable clay soil between the depth of 35 and 50 feet below the surface ground, true surface manifestations of liquefaction are not expected to impact the project site.

Landslides

Due to the relatively level topography of the project area, the potential for landslides at the project site is considered to be low.

Soil Related Engineering Constraints

Expansive Soils

Expansive soils experience volumetric changes (shrink/swell) as the moisture content of the clayey soils varies. The shrink/swell cycles can impact foundation and lightly loaded slabs-on-grade when not designed for the anticipated expansive soil pressures. Expansive soils cause more damage to structures, particularly light building and pavements, than any other natural hazard, including earthquakes and floods. Expansion potential may not manifest itself until months or years after construction. Near surface slightly expansive clay soils were encountered across portions of the project site.

The potential for damage to slabs due to expansive soils is usually addressed by placing non-expansive section below slabs-on-grade. Expansive clay soils were generally

encountered within the upper five feet in boring where surface clay soils were encountered.

Corrosion Potential

The risk of corrosion of construction materials relates to the potential for soil-induced reaction. The rate of deterioration depends on soil resistivity, texture acidity, and chemical concentration. According to the geotechnical report the portion of the site that was investigated was found to have "very corrosive" soils.

Erosion Potential

The United States Department of Agriculture Soil Survey of Monterey County, California (1978), identifies native soil in the project site vicinity as Arroyo Seco Gravelly Sandy Loam and Elder Loam Gravelly with zero to two percent slopes, and Cropley Silty Clay, which has minimal soil erosion potential. The majority of the project site consists of Arroyo Seco Gravelly Sandy Loam. These types of soil have slight erosion hazards, low shrink-swell potential, and slow to moderately rapid permeability with moderate to good drainage. There is no evidence onsite of soil erosion, however the potential of soil erosion and the loss of topsoil may occur with the construction of improvements such as buildings, roads, drainage swales and other permanent improvements that would result from the proposed project.

3.6.2 REGULATORY SETTING

CITY OF GREENFIELD GENERAL PLAN

Chapter Eight, the Health and Safety Element, of the City of Greenfield General Plan identifies goals, objectives and policies that address geological and seismic hazards. The goal of Chapter Eight related to seismic and geologic hazards is to "Protect human life, reduce the potential for serious injury, and minimize the risk of property losses from the effects of earthquakes, including fault rupture, ground shaking, and liquefaction-induced ground failure."

Policy 8.1.1 Existing and new buildings, structures, and walls within the City shall meet minimum seismic safety standards.

Policy 8.1.2 Projects within areas of potential significant seismic activity shall provide detailed geologic, geologic-seismic and soils studies by a Registered Geologist (RG), Certified Engineering Geologist (CEG), and/or Geotechnical Engineer to evaluate geologic-seismic and soils conditions, as well as ground shaking and liquefaction potential.

Policy 8.1.3 The development of structures in areas of high liquefaction potential shall be contingent on geologic and engineering studies which: 1) define and delineate potentially hazardous geologic and/or soils conditions, 2) recommend means of mitigating these adverse conditions; and 3) provide implementation of the mitigation measures.

Policy 8.1.4 All new buildings, structures, and walls shall conform to the latest seismic and geologic safety structural standards of the California Building Code.

Policy 8.1.5 Prohibit the erection of critical structures and facilities whose loss would substantially affect the public safety or the provision of needed services, in areas where there is a high risk of severe damage in the event of an earthquake (due to ground shaking, liquefaction, etc.) unless appropriate engineering and construction practices are applied to ensure structural stability.

> Program 8.1.A
> Structures intended for human occupancy shall be adequately set back from active and potentially active faults as appropriate. Ensure that minimum setbacks take into account the varying degree of seismic risk and the consequences of failure.
>
> Program 8.1.B
> Through the environmental review process, new development shall provide comprehensive geologic, seismic, and/or soils and engineering studies for any critical structure proposed for construction in areas subject to groundshaking, fault displacement, ground failure, or liquefaction.

CALIFORNIA BUILDING CODES

The California Building Code (Title 24) provides standards for testing and building construction as well as safety measures for development within earthquake prone areas.

MONTEREY COUNTY ZONING ORDINANCE

Section 21.66.040 of the Monterey County Zoning Ordinance establishes that development projects located in areas of known geologic hazards are required to submit a geologic report, prepared by a registered geologist, for approval by the Department of Planning and Building Inspection. The report must be consistent with "Guidelines for Geologic/Seismic Reports" of the California Division of Mines and Geology and must include a detailed analysis of the setting and specific development standards to be incorporated into the project's design.

MONTEREY COUNTY GENERAL PLAN

The Monterey County General Plan identifies goals, objectives and policies for seismic and other geologic hazards. The Monterey County General Plan goal is to minimize loss of life,

injury, damage to property, and economic and social dislocations resulting from seismic and other geologic hazards. Objectives and policies 15.1 through 15.5 implement the County's goal to minimize risk associate with seismic and geologic hazards.

3.6.3 PROJECT IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines and generally accepted standards for environmental documents prepared pursuant to CEQA. For the purposes of this EIR, impacts are considered to be significant if any of the following would result from implementation of the proposed project:

1. Exposure of people or structures to substantial adverse effects, including the risk of loss, injury, or death involving:

    a) Rupture of a known earthquake fault, as delineated on the most recent Aquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (Refer to Division of Mines and Geology Special Publication 42);

    b) Strong seismic ground shaking;

    c) Seismic-related ground failure, including liquefaction;

    d) Landslides;

Substantial soil erosion or the loss of topsoil;

Destruction or modification of unique geologic features or extensive landform alteration;

Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;

Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (1994), creating substantial risks to life or property;

Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater; or

Contributes significantly to any cumulative geological, soils or seismicity impact.

METHODOLOGY

The following impact evaluation is based largely upon the findings and recommendations of the Geotechnical Report completed by Twining Laboratories, which is included in the Technical Appendices of this EIR. The geotechnical investigation included soil borings at 18 locations throughout APN 221-011-017. Soils were tested for a range of engineering properties to determine their suitability for the proposed development. The geotechnical report includes general conclusion and recommendations for excavation, grading and treatment of soils to overcome any deficiencies. The City of Greenfield General Plan Chapter 10 Environmental Review was also used to examine the portion of the project site that were not included in Twining Laboratories Geotechnical Report.

PROJECT IMPACTS AND MITIGATION MEASURES

Unique Geologic Features/Landform Alteration

Landform alteration impacts that may result from ultimate development on the project site include land clearing for the construction of roads, infrastructure, building pads, parking areas, and other permanent improvements. These improvements require portions of the site to be graded and compacted with earth moving equipment. However, the site, located on the floor of the Salinas Valley, is flat and nearly level. There are no distinct topographic surfaces or geologic features (such as hills, slopes, or rock outcroppings) on the site or in the immediate vicinity that would be altered as a result of this project. There are man made agricultural plateaus located along Elm Avenue between Highway 101 and Third Street. These sloped plateaus are between the existing agricultural uses and roads, which are located at a higher elevation than the agricultural uses. The man made plateaus will pose no risk to, and are not part of the proposed project site. Therefore, the project will not result in the destruction or alteration of unique geologic features or extensive landform alteration and **no impact** is expected. No mitigation is required.

Ground Rupture

There are no faults mapped across the project site, and the potential for surface fault rupture to impact the proposed development is considered very low. Based upon U.S. Geological Survey maps and information provided by the County of Monterey, the nearest fault line is determined to be the Reliez/Rinconada Fault system approximately five miles to the west. Therefore, completion of the proposed project would not expose people or property to ground rupture and **no impact** is expected. No mitigation is required.

Seismic Ground Shaking

Impact 3.6-1 Future development in the project annexation could expose people and property improvements to ground shaking. This is considered a **potentially significant** impact.

The closest active fault to the site is the Reliez/Rinconada Fault, approximately five miles west of the project site. The San Andreas Fault is located approximately 15 miles to the northeast. No known historical earthquakes have occurred on the Reliez/Rinconada Fault; however it is considered an "active" fault. Severe damage can result from ground rupture along a fault trace or from severe ground shaking for any sustained amount of time. In addition, thick, loose materials tend to amplify and prolong the ground shaking during a seismic event. The alluvial materials located in the Salinas Valley area are more susceptible to prolonged and amplified ground shaking during a seismic event than the bedrock in the uplands. All development will be subject to compliance with the California Building Code. In addition, the following mitigations will be required:

Mitigation Measures

MM 3.6-1a All future development within the APN 221-011-017 shall comply with the recommendations identified in the Geotechnical Report prepared by Twining Laboratories, October 2005, or as required by any subsequent geotechnical report. These recommendations include, but are limited to, the following:

1. All buildings footings should have a minimum depth of 18 inches (24 for a two story building) below rough pad grade or adjacent exterior grade, which ever is lower.

2. Additional borings should be performed and data regarding the proposed structural loads should be provided in buildings at the proposed site. Additional design level geotechnical site investigations are necessary to prepare design level recommendations and to meet individual tenant requirements for geotechnical investigations.

3. All final engineering and improvement plans shall be prepared in accordance with City of Greenfield standards and shall be submitted to the City Engineer and Public Works Director for approval.

MM 3.6-1b As part of any subsequent application for development of APNs 221-011-071, 018 and 221-011-068, the Applicant shall submit a Geotechnical Investigation prepared by a qualified professional for review and approval by the City of Greenfield. The geotechnical report shall include

comprehensive geologic, seismic, and/or soils and engineering evaluations. Recommendations of the report and specific construction performance criteria shall be incorporated into the final building plans, subject to review and approval by the Greenfield Building and Planning Department.

Implementation of the above mitigation measures will reduce the potential impacts of seismic ground shaking to a **less than significant level**, by ensuring compliance with all building standards and engineering recommendations, and requiring preparation of site-specific geotechnical reports and performance criteria for the remaining parcels.

Seismic Ground Failure/Liquefaction

Impact 3.6-2 The seismic hazards of the region give rise to the risk of liquefaction, ground settlement and ground failure. This is a **less than significant** impact.

According to the Geotechnical Investigation completed by Twining Laboratories, the depth of groundwater encountered at the site was between 44 and 49 feet below surface grade, and the historical high groundwater level was 39 feet below surface grade, measured at the site by the Monterey County Water Resources Agency. The presence of non-liquefiable clay soils at the site is between the depths of 35 feet and 50 feet below surface grade. Considering groundwater depth encountered during the geotechnical investigation, true surface manifestations of liquefaction are not expected to impact the portion of the project area investigated.

According to the City of Greenfield General Plan the estimated liquefaction potential for the remaining portion of the proposed project site not investigated in the Geotechnical Report is also considered to be low, and would be expected to have similar geologic characteristics.

A common occurrence during seismic shaking is the induced settlement of loose, unconsolidated sediments. This can occur in unsaturated and saturated granular soils. Based on the data obtained as part of the geotechnical investigation a total seismic settlement of about one-third inch was estimated as a result of shaking from the design basis earthquake. A differential seismic settlement of about one-quarter inch across the building pads should also be anticipated.

The project site is nearly level and with the exception of the man-made agricultural plateaus between agricultural uses and Highway 101, no topographic slope-faces are exposed, therefore, the potential hazard of lateral spreading is considered very low as well. The man-made agricultural plateaus between agricultural uses Elm Street, Third Street and Highway 101 do not pose a significant risk to development of the proposed project site.

Nevertheless, proper engineering measures including but not limited to over-excavation of near surface soils beneath building, exterior slabs and pavements, as identified in the geotechnical report, should be taken. In addition adherence to mitigation measures **MM 3.6-1a** and **MM 3.6-1b,** will ensure that the impact remains at a **less than significant** level.

Landslides

The project site and its surroundings are flat and nearly level with slopes ranging between zero and two percent. With the exception of the aforementioned man-made sloped plateaus there are no slopes or mapped landslides in the vicinity that possess significant landslide potential either as a result of strong seismic activity or site construction and there is very low potential for landsliding or slope stability problems. **No impact** is expected.

Soil Erosion/Loss of Topsoil

Impact 3.6-3 Land clearing, grading, excavation, cut and fill operations and any other site preparation activities and installation of impervious surfaces such as pavement areas will increase the risk of soil erosion and loss of topsoil. This impact is considered **potentially significant**.

There is no evidence of significant soil erosion at the project site due primarily to level topography. However, soil erosion and loss of topsoil may occur with the construction of improvements such as buildings, roads, drainage swales and other permanent improvements that would result from the annexation. Heavy earth moving equipment is used for site grading and compaction. In general, grading activities create the potential for increased ground instability and erosion. Grading and other construction-related activities would disturb the soil which could increase soil erosion rates. All disturbed soil is subject to erosion with the amount of erosion dependent on soil type, vegetation cover, slope length and gradient. Some erosion of cuts, fills, roadside drains and downstream areas could occur throughout the lifetime of the project.

Erosion resulting from the project can be successfully controlled and prevented using a variety of methods including implementation of mitigation measure **MM 3.8-1a-c**, requiring that drainage control plans and retention basin design be submitted for all future development proposals for review and approval by the Public Works Director and City Engineer. Erosion is further controlled through compliance with all existing codes and laws, implementation of all recommendations of the Geotechnical Feasibility Report and implementation of best management practices by future construction contractors on the site. Together, these measures will reduce potential impacts to soil erosion and loss of topsoil to a **less than significant** level.

Expansive Soils

Impact 3.6-4 There is a low, but not necessarily insignificant, potential for soil expansion at the proposed project site, which could result in differential subgrade movements and cracking of foundations. This is a **potentially significant** impact

Expansive soils are subject to shrinking and swelling during seasonal wetting and drying cycles. The shrink/swell cycles can impact foundations and lightly loaded slabs-on-grade when not designed for the anticipated expansive soul pressures. Expansion potential may not manifest itself until months or years after construction. The project area is relatively flat and the soil characteristics for both Arroyo Seco Gravelly Loam and Elder Gravelly Loam include slow runoff, light erosion hazard, low shrink-swell potential, and favorable drainage. A portion of the site includes Cropley Silty Clay soils, which have a high shrink swell potential. The geotechnical investigation indicated that near surface slightly expansive clay soils were encountered across portions of the project site. Mitigation Measure **MM 3.6-1a** would require that the proposed project be designed to comply with the most recent California Building Code and would incorporate the recommendations from the geotechnical investigation into building design. Along with **MM 3.6-1a** the implementation of **MM 3.6-1b** and **MM3.1-1d** requiring a Geotechnical Feasibility Report (and performance criteria) for APN 221-011-068, 018 and 071 would reduce the effects of expansive soils at the project site to a **less than significant** level.

Corrosion / Corrosive Soils

Impact 3.6-5 The project soils are considered to be highly corrosive having the potential for soil-induced chemical reactions, and damaging construction and building materials. This is considered a **potentially significant** impact.

The geotechnical investigation indicated that the rate of deterioration from corrosive soils depends on soil resistivity, texture, acidity, and chemical concentrations. The results of preliminary chemical tests indicate that the soils are considered "very corrosive." The investigation indicated that additional testing should be completed in order to provide general recommendations for corrosion protections. The following mitigation measure should reduce the impact of corrosive soil to a **less than significant** level.

MM 3.6-5 The project applicant shall conduct laboratory testing to determine the range of appropriate corrosion-resistant materials needed for project construction. The applicant shall submit evidence of compliance to the City of Greenfield Building Official prior to issuance of building permits.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

The project will not combine with any other factors or impacts from cumulative projects and, thus, is not significant due to the localized, site-specific nature of geotechnical and seismic impacts. No significant cumulative impacts are predicted relative to geology or geologic hazards. Cumulative development would result in **no cumulative impact**.

REFERENCES/DOCUMENTATION

City of Greenfield. *General Plan and General Plan EIR*. October 2005.

County of Monterey. *Monterey County General Plan*. 1982.

United States Department of Agriculture, Soil Conservation Service. *Soil Survey of Monterey County, California*. September 1978.

County of Monterey. *Central Salinas Valley Area Plan*. 1987.

Coats Consulting, and the Law Offices of Aaron P. Johnson. Project description, information and plans.

Twining Laboratories Inc. Geotechnical Feasibility Investigation Report. October 21, 2005.

This Page Intentionally Left Blank

Section 3.7
Hazards / Risk of Upset

This section of the EIR discusses the potential presence of hazardous materials and hazardous conditions within the project area and analyzes the potential risk of these conditions in the context of existing and proposed development and future human activities. Information contained in this section is taken from two separate Phase I Environmental Site Assessments (ESAs), completed in October 2005 by Twining Laboratories, Inc., research conducted by PMC, and correspondence with public agencies.

3.7.1 EXISTING SETTING

The proposed project site consists of four separate parcels, APNs 221-011-017, 221-011-018, 221-011-071, and 221-011-068. Twining Laboratories completed two separate Phase I ESAs upon request of the project applicants. Each Phase I ESA analyzed the subject property for recognized environmental conditions in accordance standard criteria.

Phase I ESAs were not completed for APN 221-011-071 or APN 221-011-018 as part of the project application. These parcels are being reviewed at a programmatic level consistent with the level of detail for a program EIR, and the setting information contained herein is based upon field observations conducted by PMC staff.

The existing setting and impact analysis of this section addresses each parcel separately.

APN 221-011-068 (SCHEID WEST PARCEL)

Observed Site Features

APN 221-011-068 is located west of Camino Real and south of Patricia Lane just south of the City of Greenfield. The site is approximately 47 acres in size, and currently used for of agricultural row crops. The site is located at an elevation of approximately 280 feet above mean sea level and the land surface slopes toward the south. According to the Soil Survey of Monterey County, CA, native soils in the vicinity of the parcel are composed of Arroyo Seco Gravelly Loam (0 to 2 percent slopes).

The project site has been used historically for agricultural purposes as far back as 1937. Unpaved access and ranch roads adjoin the western and southern boundaries of the parcel. El Camino Real adjoins the parcel on the eastern boundary. Adjoining properties to the north had also been used for agriculture since at least 1937, until approximately 1997, when Greenfield High School was constructed. As part of the background research conducted, building permit records from the Monterey County Planning and Building Department were reviewed to document features or structures that could present a potential environmental concern. No building permits associated with the property were found.

Site Reconnaissance

The Phase I ESA included a site reconnaissance of the Scheid West parcel conducted by Twining Laboratories. The site reconnaissance included a site visit to observe and photograph specific indicators of potential environmental concern. Findings of the reconnaissance are described below.

Hazardous Substances and Wastes

Twining Laboratories observed an above ground plastic tank labeled Sulfuric Acid, located on the western portion of the parcel, the exact size of the tank is unknown. The tank is housed in a wooden structure near an electric agricultural pump. The exact use of the pump is unknown.

Agricultural Chemicals

No agricultural chemicals, or areas where agricultural chemicals may have been stored or mixed, were observed at the parcel during the site reconnaissance. However the parcel has been historically used for agricultural purposes, therefore, a likelihood that residual concentrations of previously applied environmentally persistent agricultural chemicals may remain in the soil on the parcel.

Pipelines and Pipes of Unknown Use or Origin

Several PVC pipes were identified on site during the site reconnaissance completed by Twining Laboratories, the origin and use of the pipes was unidentified, however Twining laboratories observed that the pipes were indicative of agricultural use.

Pits, Ponds and Lagoons

No pits, ponds, or lagoons were observed on the parcel during the site reconnaissance, with the exception of a stagnant pool of water on the eastern boundary of the parcel. The source of the minor area of pooling of water was identified as agricultural run-off.

Polychlorinatedbiphenyl (PCB) Containing Equipment

One pole-mounted transformer was identified on the western portion of the parcel. The transformer casings display no evidence of leakage, and no staining or discoloration was observed on the ground surface below the transformer.

Other Physical Evidence of Contamination

An electrical agricultural pump was observed on the western portion of the parcel. Oil staining was observed on the pump itself and below the pump in the soil. A shack used for

agricultural purposes located adjacent and northeast of the pump also contained areas of oil staining, with the staining apparently contained within a few feet of the shack. Hydrocarbon odors were also noted in one of the soil borings drilled in the southeast corner of the project site.

Other Issues Potential Concern

Other than the aforementioned tank labeled for sulphuric acid, there were no indications of above ground storage tanks (ASTs) or underground storage tanks (USTs) on the parcel. No visual indications that parcel contain any septic tanks, water wells or dry wells. No drums or other storage containers were observed, and there was no evidence of solid waste or dumped material. No drains or sumps were identified, and no wastewater appears to be generated on the parcel. The site contains no oil or gas wells, high-tension power lines, wetlands surface waters, or other features of interest.

Records Review and Research

A records review was conducted for the site and surrounding areas to help evaluate recognized environmental conditions in connection with the site and bordering properties. The review included databases available from the Federal, State and local regulatory lists and was performed by Environmental Data Resources (EDR), August 29, 2005.

The results of the records review identified one instance in the vicinity with the potential to pose an environmental concern at the project site. The facility is the Scheid Vineyard Bland Ranch Facility, located at 42595 Espinosa Road. This facility had an on-site AST rupture at a location approximately 3,000 feet south of the parcel, and the contents of the AST were not disclosed in the records review. A "case closure letter" dated February 5, 1997, stated that no further action regarding the site was needed. Due to the information reviewed at the Monterey County Environmental Health Department, the case closure letter, and the distance between the AST and the project, the environmental concern for this off site facility is considered low.

APN 221-011-017 (FRANSCIONI PARCEL)

Observed Site Features

This 171-acre parcel is located east of Patricia Lane and north of Espinosa Road. The Phase I ESA addressed and analyzed 121 of the 171 acres, as 50 acres of the parcel will be placed in a permanent agricultural easement and are not proposed for development. The parcel is located at an elevation of approximately 280 feet above mean sea level and surface slopes toward the south. Patricia Lane adjoins the parcel to the west, and unpaved ranch roads border the property to the north and east.

The northwest portion of the parcel contains a single-story residence and metal shed. A wooden structure is also located in the central portion of the parcel. Electricity is provided to the parcel by PG&E, water is supplied by a domestic well on the parcel, and the residence served by a residential septic tank.

Review of Historical Aerial Photographs

A series of historical aerial photographs were reviewed as part of the ESA, dating back to 1937. The earliest photos identify the farmhouse located on the northwest portion of the parcel, and the adjoining parcels were clearly identified as under agricultural use. . Based on the photos, the use of the property went through little or no alterations until 1976 when a retention basin was observed. From 1976 to present, aerial photographs indicate that the subject parcel and adjoining properties have remained in similar use.

Building Permit History

Monterey County building permit records were reviewed to identify any construction or permit activity. One permit issued in 1998 is on file for the addition of what is described as an Accessory Building.

Site Reconnaissance

The Phase I ESA included a site reconnaissance of the Franscioni parcel. The site reconnaissance included a site walk to observe and photograph specific indicators of environmental concern at this location. Findings of the reconnaissance are described below.

Underground Storage Tanks (USTs) / Aboveground Storage Tanks (ASTs)

Visual indications of USTs such as vent lines or fill ports were not observed on the parcel during the site reconnaissance. However, an approximately 1,500-gallon Diesel Fuel AST, housed on the central portion of the parcel in a wooden shed was observed. Adjoining the eastern side of the wooden shed is an approximately 500-gallon water tank. Twining also observed two propane tanks on the northwest portion of the parcel. One propane tank appears to be in domestic use for the residence, while the other appears to be used for agricultural use. A domestic water pump was also observed near the house.

Septic Tanks, Water Wells and Dry Wells

An agricultural pump and water well were observed on the northwestern portion of the parcel. The well is drilled to a depth of approximately 420 feet. According to the property owner, a single septic tank is located adjacent to the residence.

Potential Polychlorinatedbiphenyl (PCB)-Containing Equipment

One pole-mounted transformer was identified on the parcel, near the southeastern boundary. The transformer casings displayed no evidence of leakage and no staining or discoloration was observed on the ground surface or below the transformer

Oil and Gas Well

One oil well was identified on the southern portion of the parcel. The oil well is not currently in use, and was plugged and abandoned.

Pits, Ponds and Lagoons

A dry retention basin located in the central portion of the property was observed. According to the site operator, the basin was used in the past to hold water for frost protection for the vineyard. The basin is now only used to hold excess water from the fields.

Pipelines and Pipes

Twining observed an agricultural pump located in the northwestern portion of the property. The site operator indicated that the pump is connected to the water pump in the central portion of the parcel near the retention basin. Metal irrigation pipe was present throughout the parcel.

Agricultural Chemicals

A 1,000-gallon chemical tank on a trailer was observed. No other agricultural chemicals or areas where agricultural chemicals may have been stored or mixed were observed. Because the parcel has been in agricultural use for several decades, the possibility exists that residual concentrations of the previously applied environmentally persistent agricultural chemicals may remain in the soil at the parcel.

Power Generators

Twining observed three generators on site. A four horsepower gasoline generator was observed in a shed in the central portion of the parcel, a five horsepower gasoline generator was observed on the trailer holding the 1,000 gallon tank, and a 100 horsepower electrical generator was located near the agricultural pump in the northwestern portion of the parcel.

Soil Mounds

Twining observed 32 soil mounds on the parcel. The mounds traversed the parcel east and west. The mounds were observed to have burnt remnants of trees and debris associated with farm operations and regular site clearing.

Other Issues Potential Concern

No other indicators of hazardous substances or wastes were observed, or evidence of contamination. The site contained no drums or other storage containers, indications of solid waste disposal, or evidence of drains or sumps. No high-tension power lines traversing the site are present, and there are no wetlands or surface waters. Indications of contamination (i.e. stressed vegetation, pavement degradation, etc.) were not observed on the parcel.

APN 221-011-071 (SCHEID EAST PARCEL)

Based upon the site observations conducted by PMC, the parcel is in active agricultural use, similar to surrounding parcels. Potential issues of environmental identified during PMC's onsite visit are discussed below.

Potential Polychlorinatedbiphenyl (PCB)-Containing Equipment

One pole-mounted transformer was identified on the parcel, near the central western boundary. The transformer casings displayed no evidence of leakage and no staining or discoloration was observed on the ground surface or below the transformer.

Pipes and Pipelines

Metal irrigation pipes and attached sprinkler systems were present throughout the parcel.

Water Well and Pump System

PMC observed an agricultural pump system connected to a water well located in the western portion of the property. The pump was housed in a dilapidated shed built from wood and aluminum siding. The agricultural pump system was attached to pipes that were both above and under ground. The system was also attached to an empty 65-gallon plastic tank and adjacent to a 500-gallon AST, the contents unknown. There also was an electrical generator attached to the agricultural pump system.

Agricultural Chemicals

From the nature of the agricultural pump system it is likely that agricultural chemicals may be stored and/or mixed on the property. Because the parcel has been in agricultural use,

the possibility exists that residual concentrations of the previously applied environmentally persistent agricultural chemicals may remain in the soil at the parcel.

Other Issues Potential Concern

The parcel contains several broken metal irrigation pipes located in the northwest corner and middle of the parcel. There is also a mound of stones in the northwest corner of the parcel. A minimal amount of trash is scattered throughout the parcel, a few plastic bags and beverage bottles. A wooden telephone pole with electrical wires running from the pole-mounted transformer is located adjacent to the shed. Attached to the pole were two large electrical fuse boxes, one with an attached meter and the other with on and off switches for a deep well pump and booster line pump.

APN 221-011-018 (L.A. HEARNE COMPANY)

APN 221-011-018 is located at the southwest corner of Espinosa Road and Highway 101. The approximately three-acre parcel currently consists of the L.A. Hearne Company agricultural equipment storage facilities and buildings. The parcel also contains one mobile home and wooden shed located behind the agricultural storage facilities. Potential issues of environmental concern located on the parcel identified during PMC's onsite visit are discussed below.

Issues Potential Concern

The L.A. Hearne facilities consist of two main buildings - one large warehouse and one smaller warehouse - located on the western portion of the parcel. From the site visit conducted by PMC the facilities are used for agricultural equipment storage and feed and grain storage. Empty crates, slats and large wooden boxes surround the two building. On the north side of the large building a potion of the gutter is broken and has partially fallen off, and an empty oil drum and wooden post are used to hold a sign for the truck scale. On the southern side of the there are a few discarded tires and pieces of equipment including what seems to be a type of conveyor belt. A hitching post made from metal pipes is located on the northwestern portion of the parcel.

The mobile home, located in the eastern portion of the parcel, is surrounded by debris and a wooden shed. The debris included pieces of broken wood, a rusted generator, aluminum trashcan, umbrellas, and an oil drum. The wooden shed is east of the home and in a dilapidated condition. The shed appears to contain aluminum siding. Two empty gas cans, one oil drum, rubber hoses, plastic bags surround the shed, and a number of paint cans and paint remover cans were observed.

Underground and Above Ground Storage Tanks

In the southeastern portion of the parcel a three foot high above ground tank labeled blue epoxy lined tank is connected to PVC pipes that appear to be both above and underground covered the use and contents of the tank are unknown. A propane tank, of unknown capacity is located adjacent to the mobile home.

Potential Polychlorinatedbiphenyl (PCB)-Containing Equipment and Electrical Lines

One pole-mounted transformer was identified on the parcel, near the southwestern boundary. The transformer casings displayed no evidence of leakage and no staining or discoloration was observed on the ground surface or below the transformer. Additionally, Electrical lines traverse the eastern portion of the parcel from wooden telephone poles over the mobile home.

Soil and Concrete Mounds

There were five soil and concrete mounds observed on the parcel, and two soil mounds located on the western boundary of the parcel located in front of the smaller agricultural storage facility. There is one small soil and rock mound on the southern portion of the parcel and one soil and rock mound on the northern portion of the parcel. A large concrete mound is located in the middle of the parcel between the agricultural buildings and the mobile home.

3.7.2 REGULATORY SETTING

DEFINITION OF HAZARDOUS MATERIALS

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22 of the California Code of Regulations (CCR) as:

> …a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (California Code of Regulations, Title 22, Section 66260.10).

Chemical and physical properties cause a substance to be considered hazardous, including the properties of toxicity, ignitability, corrosivity, and reactivity. These terms are defined in

the CCR, Title 22, Sections 66261.20-66261.24. Factors that influence the health effects of exposure to hazardous material include the dose to which the person is exposed, the frequency of exposure, the exposure pathway, and individual susceptibility.

FEDERAL TOXIC SUBSTANCES CONTROL ACT

Congress enacted the Toxic Substances Control Act (TSCA) in 1976, to become effective January 1, 1977. The act authorizes EPA to secure information on all new and existing chemical substances and to control any of these substances determined to cause an unreasonable risk to public health or the environment. TSCA also includes requirements for the storage, use, and disposal of PCB-containing materials.

CALIFORNIA HEALTH AND SAFETY CODE

Monterey County is currently responsible for implementing Chapter 6.95 of Division 20 of the California Health and Safety Code (Section 25500 et seq.), relating to hazardous materials release response plans and inventory.

CALIFORNIA WATER CODE

California Water Code Section 231 requires the California Department of Water Resources (DWR) to develop well standards to protect California's ground water quality. DWR Bulletin 74-90 (Supplement to Bulletin 74-81), *California Well Standards, Water wells, Monitoring wells, Cathodic protection wells, June 1991*, contains the minimum requirements for constructing, altering, maintaining, and destroying these types of wells. The standards apply to all water well drillers in California and the local agencies that enforce them.

CITY OF GREENFIELD GENERAL PLAN

Chapter Eight, the Health and Safety Element, of the City of Greenfield General Plan identifies goals, objectives and policies that address Site Hazards and Hazardous Materials. The goal of Chapter Eight related to hazards and hazardous materials is to "Provide protection from hazards associated with the use, transport, treatment, and disposal of hazardous substances."

Policy 8.4.1 Identify and address hazardous waste releases from private companies or public agencies.

Policy 8.4.2 Adopt regulations for the storage of hazardous materials and wastes in the City including secondary contaminant and periodic examination for all storage of toxic materials.

Policy 8.4.3 Industrial facilities shall be constructed and operated in accordance with up-to-date safety and environmental protection standards.

Policy 8.4.4 Industries which store and process hazardous materials shall provide a sufficient buffer zone between the installation and the property boundaries to protect public safety, as determined by the City Building official, with recommendations of the Fire Chief and County Health Department.

Policy 8.4.5 New developments shall evaluate the presence or absence of naturally occurring asbestos and mitigate any impacts.

Program 8.4.A
Encourage the State Department of Health Services and the California Highway Patrol to review permits for radioactive materials on a regular basis and to promulgate and enforce public safety standards for the use of these materials, including the placarding of transport vehicles.

Program 8.4.B
Request that State and Federal agencies with responsibilities for regulating the transportation of hazardous materials review regulations and procedures, in cooperation with the City, to determine means of mitigating the public safety hazard in urbanized areas.

Program 8.4.C
Prior to site improvements for properties that are suspected or known to contain hazardous materials and sites that are listed on or identified on any hazardous material/waste database search shall require that the site and surrounding area be reviewed, tested, and remediated for potential hazardous materials in accordance with all local, state, and federal regulations.

MONTEREY COUNTY HAZARDOUS MATERIALS PROGRAM

The Monterey County Health Department Environmental Health Division manages and regulates the storage, use and disposal of hazardous wastes through the Hazardous Materials Program. This Program provides measures for hazardous waste on-site treatment; spill prevention control and countermeasures for aboveground and underground storage tanks, site mitigation and risk management and prevention.

3.7.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines and the goals and policies of the City of Greenfield General Plan. For the purposes of this EIR, impacts are considered significant if the following could result from the implementation of the proposed project:

1. Create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials;

2. 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;

3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

4. Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;

5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;

6. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;

7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or

8. 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.

METHODOLOGY

Twining Laboratories prepared Phase I ESAs for APNS 221-011-017 and 221-011-068, two of the four subject parcels. The other two parcels (-068 and –071) were observed by PMC and compared to information generated by the background searches. The purpose of the Phase I ESAs was to analyze the environmental conditions of the site that may be indicative

of potential sources of soil or groundwater contamination. The scope of the assessments included:

- A review of current and past uses for the parcels since at least 1937.
- A site reconnaissance to assess evidence of recognized environmental conditions or concerns.
- A review of adjacent properties to assess their potential to adversely impact the site.
- A review of available federal and state Environmental Protection Agency (EPA) lists of known or potential hazardous waste sites or landfills, and sites currently under investigation for environmental violations in the project site area. Using area profile services, Twining cataloged sites in the vicinity that have been identified on regulatory agency lists.
- Contact with relevant municipal, county and state regulators to review readily available records and permits; and
- Preparations of a written report to present findings and conclusions for the EIR.

PROJECT IMPACTS AND MITIGATION MEASURES

Construction-Related Hazards

Impact 3.7-1 Construction-related hazards resulting from existing site conditions are expected during project construction. Site hazards, however, are considered a **less than significant** impact.

Construction-related hazards at agricultural project sites typically include exposure to existing soil contamination, on-site storage tanks (see discussion of **Impact 3.7-3** below), as well as hazards generated during construction activities such as exposure to flammable materials and reactive chemicals, heat stress, hazards from energized electrical equipment, biological hazards, moving equipment, noise, vibration and risks associated with excavation. Construction firms and workers are protected by worker safety regulations of the California Occupational Safety and Health Administration and best management practices would be implemented to ensure safety during all phases of project implementation. Based on the findings of the ESAs conducted for the project, there were no clearly identifiable or acute site hazards that would pose a specific risk to construction workers. The impact from construction-related hazards is therefore considered **less than significant**. No mitigation is required.

Exposure to Residual Pesticides and Hydrocarbons

Impact 3.7-2 Annexation and subsequent development of the project site on lands previously utilized for agricultural production could potentially expose people or property to soil contamination from pesticides and herbicides. This is considered a **potentially significant** impact.

The parcels included in the proposed project area were previously used for agricultural production. It is likely that pesticides and other agricultural chemicals, which are recognized environmental contaminants, have been applied to these parcels for decades and that residual concentrations of these chemicals remain in the soil. According to the Phase I ESA completed for parcel 221-011-017, environmentally persistent agricultural chemicals may also have impacted soils within the retention basin, and Hydrocarbon odors were noted in a soil boring drilled on parcel 221-011-068. Due to the potential residual concentrations of pesticides historically applied to crops on the site, the following measure shall be required:

Mitigation Measure

MM 3.7-2 As part of the application submittal for subsequent site development plans within the project area, each project applicant shall have a qualified professional conduct a Phase II Soil Investigation. (For parcels 221-011-071 and –018, both a Phase I and Phase II will be required). The Phase II ESA shall assess whether soils on the project site were contaminated by storage or use of hazardous chemicals including pesticides.

The Phase II study shall also ensure that the oil well on APN 221-011-017 was capped and abandoned consistent with current requirements Federal, State and local requirements. To the extent that soil contamination is detected during the Phase II Investigation, the applicant shall develop a remediation program to address any identified contamination hazard, if present. The remediation program shall be prepared and submitted as a component of specific development applications. The applicant shall demonstrate compliance with the recommendations and remedial measures as part of final improvement plans.

Implementation of the above mitigation measure will reduce potential impacts associated with residual contaminants to a **less than significant** level by requiring compliance with any remedial measures (performance standards) as warranted and identified within a subsequent Phase II Soil Investigation.

Exposure to Hazardous Substances

Impact 3.7-3 Development of the project site may expose people and/or property to hazardous substances in connection with previous land uses. This is considered a **potentially significant** impact.

APN 221-011-017 (Franscioni Parcel)

The Phase I ESA for APN 221-011-017 revealed the presence of an agricultural well. A water well not properly abandoned could pose an environmental concern by acting as a direct conduit for hazardous contaminants that are dumped or spilled in or near the well to impact the groundwater beneath the project site. This is a **potentially significant** impact

The ESA also recognizes that on properties that have been historically used for agricultural use, such as the project site parcels, subsurface pipelines may exist. It is a possibility that subsurface pipelines that may exist on the project site contain asbestos. This is considered a **potentially significant** impact.

A single story rural residential dwelling and metal shed are located on northwest portion of parcel 221-011-017. The date of construction of the structures could not be identified; therefore there is the possibility for asbestos containing building (ACB) materials within the structure, which is a **potentially significant** impact.

The 32 soil mounds identified on the parcel contained soil and wood remnants and other debris, and appear to be burn piles. The piles of soil may contain potentially hazardous materials and warrant further testing prior to site development.

There is one identified oil well on the parcel. The oil well is not in use and has been plugged and abandoned. According to the State Division of Oil and Gas, although abandoned, site disturbance could cause a potentially significant impact through damage to the decommissioned well.

APN 221-011-068 (Scheid West Parcel)

The Phase I ESA for this parcel indicated that there is an electrical agricultural pump located on the western portion of the parcel. Oil staining was observed on the pump itself and below it in the soil. A shack adjacent to the pump also contained area of oil staining. The presence of oil staining presents a potentially significant impact.

A tank labeled "Sulfuric Acid" is located on the western portion of the project site. The ongoing integrity of the tank in the short term and ultimate removal of the tank in the future is of significant importance.

The ESA also identifies that properties that have been historically used for agricultural use, such as the project site parcels, subsurface pipelines may exist. It is a likely possibility that subsurface pipelines that may exist on the project site contain asbestos. This is considered a potentially significant impact.

The results of the records review for APN 221-011-068 identified one recorded instance of a potential hazard release in the vicinity of the project site, at 42595 Espinosa Road. This facility had an on site AST rupture at a location approximately 3,000 feet south of the project, but the contents of the AST were not disclosed in the records review. A "case closure letter" dated February 5, 1997, stated that no further action in regards to the site was needed. The Phase I ESA for 221-011-068 indicated that due to the information reviewed at Monterey County Environmental Health Department, and the distance of the AST from the project site, the impact is considered to be **less than significant**.

Mitigation Measures

MM 3.7-3 During the project review and analysis process for subsequent site-specific applications, the applicant shall provide evidence that all contaminants and contaminant sources have been addressed in a manner that removes the health hazards from the site in accordance with applicable regulations. Specifically, the applicant shall demonstrate that all issues identified through Phase I and Phase II ESAs have been addressed through implementation of the environmental expert's recommendations. Specific measures shall include, but not be limited to the following:

a. All on-site water wells shall be properly abandoned according to the regulations of the California Department of Water Resources.

b. Any subsurface pipelines encountered during site preparation or construction shall be examined by a qualified professional for the possible presence of asbestos. If the subsurface pipelines contain asbestos, the applicant shall have them removed, transported and disposed of in accordance with the local, county and state regulations.

c. Prior to the issuance of a demolition permit and/or conducting any repair, renovation, or demolition work on any on-site structures, the project applicant shall have a qualified professional conduct an asbestos survey and implement the recommendations of that survey.

d. Any existing septic tank found on the project site shall be abandoned in accordance with California Department of Water Resources guidelines and the County of Monterey requirements.

e. During excavation or throughout any part of the development process the project applicants shall remove and dispose of any additional hazardous materials and/or petroleum products in accordance with local, state and federal guidelines.

f. All areas with stains, leakage or noticeable odors shall be analyzed for subsurface contamination by a qualified professional in accordance with MM 3.7-2.

g. The project applicant for development on APN 221-011-068 shall remove and dispose of the tank labeled "sulfuric acid" and its contents located on the western portion of parcel. The tank shall be removed and disposed of in accordance with local, state and federal regulations. If there is any evidence of leakage or staining around the tank the applicant should have the area analyzed for contamination by a qualified professional consistent with MM 3.7-2.

h. Prior to the reuse of property containing the 32 soil piles found on APN 221-011-017, the project applicant shall have the piles sampled for constituents of concern during the Phase II ESA required by MM3.7-2. If the soil piles are not to be used in the future development of the project site they should be removed in accordance with local, state and federal guidelines.

Implementation of the above mitigation measures, in conjunction with **MM 3.7-2**, would reduce potential impacts from hazardous substances to a **less than significant** level by requiring that all potential contaminants, contaminant sources and hazardous conditions be tested and remediated prior to site development, in accordance with all federal, state and local regulations.

Wildland Fire

Wildland fire impacts may be considered significant if the project would 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. However, based on observed site conditions and according to the Central Salinas Valley Area Plan, the project site is not located in an area prone to wildland fire or excessive fuel loading and **no impact** is anticipated.

Future On-Site Industrial and Highway Commercial Uses

Impact 3.7-4 Future industrial uses at the project site could result in impacts related to the generation, storage and handling of hazardous chemicals and substances. This is a **potentially significant** impact.

The project proposes approximately 60 acres of heavy industrial use that could utilize hazardous materials in their daily operations. Highway Commercial land uses, such as the truck stop, may also involve the use and transport of hazardous substances. At this stage of planning there are no confirmed tenants identified; however, heavy industrial and highway commercial uses could involve manufacturing, agricultural processing, fabrication and similar processes that use a variety of hazardous materials and chemicals with different levels of hazard related to their use and storage. Workers, visitors or nearby receptors could be exposed to hazardous materials through inhalation, skin contact or cuts if hazardous substances are used in conjunction with on-site heavy industrial and highway commercial uses. Therefore, the following measures shall be implemented:

Mitigation Measures

MM 3.7-4a As part of subsequent project application submittals, specific industrial and highway commercial users and/or tenants shall be identified. As specific industrial and highway commercial users are proposed and become known, the environmental review conducted for use permits and other entitlements shall address the location and potential impact of such use upon surrounding land uses. Heavy industry and highway commercial projects that pose a potential risk to surrounding land uses shall be located through site planning to minimize land use conflicts.

MM 3.7-4b Handling and/or storage of hazardous materials associated with future uses shall take place in accordance with the requirements of the Monterey County Health Department Environmental Health Division and the California Department of Toxic Substances Control.

Implementation of the above mitigation measures will reduce potential impacts from future on-site industrial and highway commercial uses to a **less than significant** level by requiring strict compliance with the most current performance standards and regulations of state, federal and county codes.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Risk of Exposure to Hazardous Materials or Upset Conditions

Impact 3.7-5 The eventual development and buildout of the project area only presents health hazard or upset impacts to the project area and immediate vicinity. Any cumulative impact is considered **less than significant**.

Implementation of the project would result in potential risks associated with exposure to hazardous substances such as pesticides, hydrocarbons and other substances associated with previous land uses. However, Health Hazards/Risk of Upset impacts would be site-specific and are generally not affected by cumulative development in the region. The existence of city-wide conditions of a similar nature will not "combine" with the South End SOI issues to create a larger effect. Any and all hazard impacts and remediation measures are specific to the area they are located. Cumulative effects are therefore less than significant.

REFERENCES/DOCUMENTATION

City of Greenfield. *City of Greenfield General Plan*. October 2005.

County of Monterey. *Monterey County General Plan*. 1982.

County of Monterey. *Central Salinas Valley Area Plan*. 1987.

The Twining Laboratories, Inc. *Phase I Environmental Site Assessment (APN 221-011-017).* October 3, 2005

The Twining Laboratories, Inc. *Phase I Environmental Site Assessment (APN 221-011-068).* October 3, 2005

Coats Consulting and the Law Offices of Aaron P. Johnson. Project information from applicants.

Site Visit. Pacific Municipal Consultants Staff. February 15, 2005.

Section 3.8
Drainage and Water Quality

This portion of the EIR will focus on the increase in runoff from impervious surfaces, proposed retention basins, and surface water quality and water quality protection measures. The analysis identifies existing drainage patterns and estimates storm drainage runoff that would be generated by the conversion of the site from agricultural to urban uses. Information gathered in this section was based upon available City documents, the Central Salinas Valley Area Plan, the Engineering Feasibility Study completed by Creegan and D'Angelo Consulting Civil and Structural Engineers (C+D Engineers), FIRM Flood Hazard Maps, and information provided by the project applicants for the proposed project parcels.

3.8.1 ENVIRONMENTAL SETTING

REGIONAL DRAINAGE PATTERNS

The Salinas Valley is enclosed on the northwest and southeast by the Sierra de Salinas and the Gabilan Mountains. Precipitation drains downward into the Valley from the slopes of the surrounding mountains and from the head of the Valley. The Salinas River, located approximately three miles east of the City of Greenfield, is the main drainage feature of the Valley. The river is approximately 155 miles in length and is the largest submerged river in the United States. The principal tributaries of the Salinas River are the Arroyo Seco, Nacimiento and San Antonio Rivers, which drain the Santa Lucia Mountains, and the San Lorenzo River, which flows from the Gabilan Mountains. Water flows from the Salinas River into the Pacific Ocean via Monterey Bay.

Locally, the Arroyo Seco River drains the eastern face of the Sierra de Salinas Mountains and flows to the Salinas River. The Arroyo Seco River drainage systems have constructed the alluvial fan deposits near the mouths of the streams and tributaries of the river, and are noticeable when observed from the northeastern face of the Gabilan Mountains.

CITY-WIDE DRAINAGE PATTERNS AND FACILITIES

Drainage in the City of Greenfield consists of a network of open channels and swales. There is no subsurface storm drain collection system. Drainage and urban runoff in the City flows generally from west to east, toward the Salinas River. In the urban area, runoff is collected in a number of retention basins that collect and percolate stormwater back into the aquifer.

Highway 101 is below natural grade and separates the east and west sides of town. Drainage flowing from west to east occurs through drainage facilities that are at grade with the freeway, with stormwater flowing under the freeway.

FLOODING POTENTIAL

100-year Flood Plain

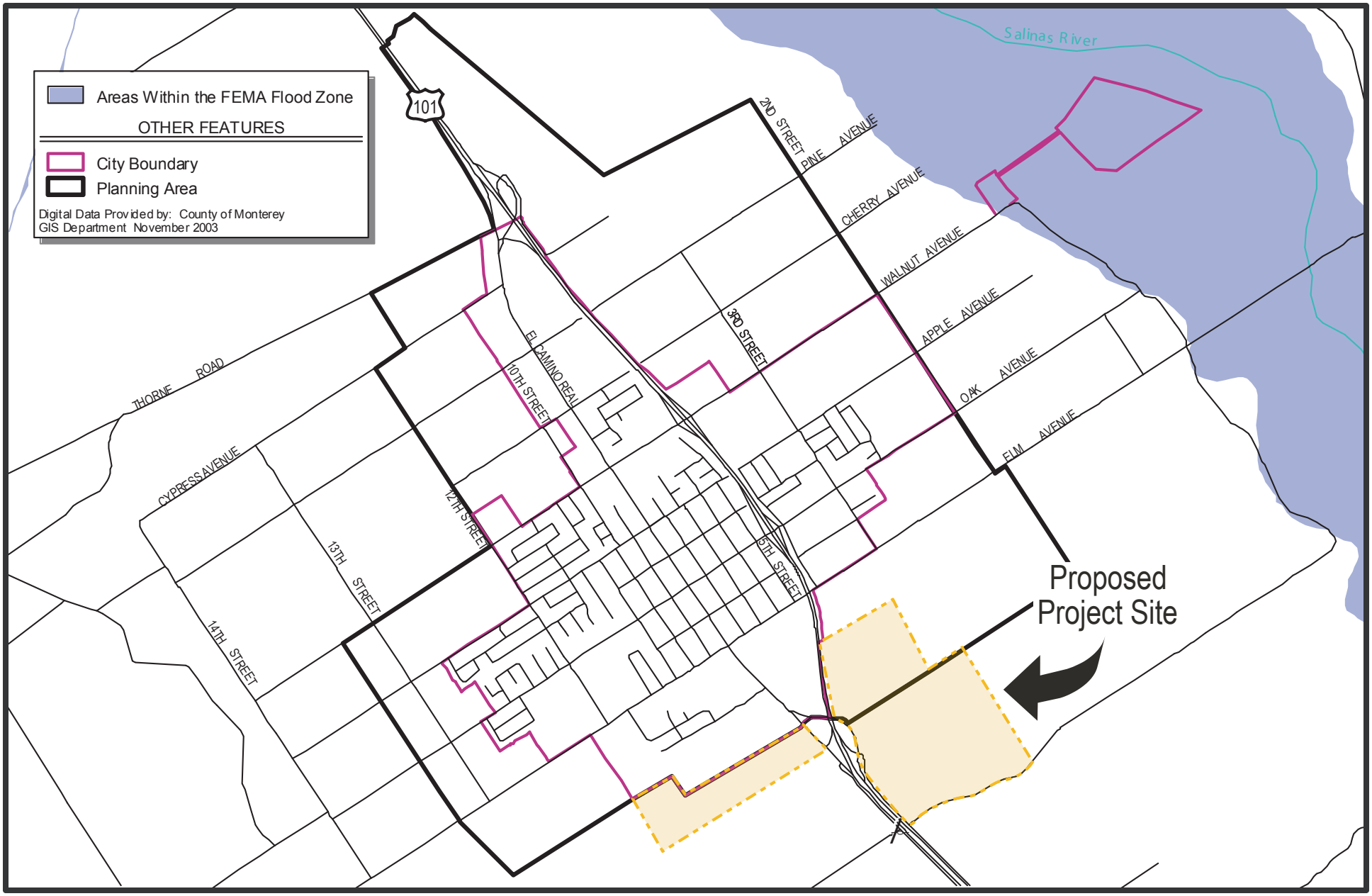
The project site is not located within the boundaries of the Salinas River's 100-year flood Zone. According to FEMA's Flood Insurance Rate (FIRM) Maps for the Greenfield area, the boundary of the 100-year flood zone approximately one and a half mile to the east of the project site. (See **Figure 3.8-1** 100-Year Flood Zone.)

Dam Failure Inundation

The failure of either the Nacimiento or San Antonio Dams is considered to be a very low risk hazard. If failure did occur, through either seismic activity or war emergency, the City of Greenfield would be affected to only a small degree under most circumstances, excluding the coincidence of dam failure with a 100-year storm event. This is due mainly to the distance from the reservoirs and the opportunity for the largest volume of water to dissipate on the intervening lands before reaching the City of Greenfield. Travel time of peak flood is estimated to be 14 hours from San Antonio Dam and 15 hours from Nacimiento Reservoir. In the event of dam failure at either the Nacimiento or San Antonio Dams, emergency plans would be implemented by the California Office of Emergency Services (OES) in cooperation with Monterey County OES and the City of Greenfield. Notification times and departure routes would be provided for adequate evacuation.

EXISTING WATER QUALITY

Surface water quality in Greenfield is influenced by both agriculture and urban runoff. Although no specific constituent data is available, urban runoff would be expected to be typical of urban areas, containing contaminants such as hydrocarbons and metals, mostly from motor vehicles. On the edges of town, stormwater would be expected to be more turbid with suspended particulates and agricultural chemicals, primarily from exposed fields and intensive agricultural production which is typical of Salinas Valley communities.



T:\City of Greenfield\Graphic Development\Figures\Figure 3.8-1.ai, January 2006

0 0.25 0.50
SCALE IN MILES

N

FIGURE 3.8-1
100 YEAR FLOOD PLAIN

PMC

This Page Intentionally Left Blank

PROJECT SITE SETTING

Local Drainage Patterns and Facilities

APN 221-011-068 (Scheid West Parcel)

Drainage in this area is served by an existing drainage swale beginning at Elm Avenue on the west side of Vista Verde School. The swale flows south to the Scheid West parcel, turns east along the north side of the parcel boundary, and flows to Highway 101. The drain continues under the to an existing retention basin located on the east side of Highway 101.

APN 221-011-017 (Franscioni Parcel) & 221-011-071 (Scheid East Parcel) and APN 221-011-018 (L.A. Hearne Co.)

This general area, east of Highway 101 and south of existing City development patterns, is essentially farmland. All existing drainage is either surface flow toward the Salinas River or collected in swales that run along parcels lines and ranch roads. An earthen basin is located near the center of the Franscioni parcel; however, this basin appears breached, and has obviously been used historically for agriculture-related water collection or irrigation. The basin has no bearing on future planning of the property.

According to the City of Greenfield storm drain master plans, all storm drainage is required to be retained on the project site for and design up to a 100-year flood event. The City of Greenfield requires, where feasible, for multiple parcels and/or projects to share retention basins.

3.8.2 REGULATORY SETTING

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM MUNICIPAL STORMWATER PERMIT

Pursuant to the 1987 Amendments to the Clean Water Act and 1991 regulations promulgated by the EPA, the SWRCB has adopted the National Pollutant Discharge Elimination System (NPDES) with two general permits for stormwater dischargers. One permit applies to industrial dischargers and the other permit relates to construction activities.

NPDES was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307

of the CWA describes the factors that EPA must consider in setting effluent limits for priority pollutants.

The purpose of the NPDES program is to establish a comprehensive stormwater quality program to manage urban storm water and minimize pollution of the environment to the maximum extent practicable. The NPDES program consists of: 1) characterizing receiving water quality, 2) identifying harmful constituents, 3) targeting potential sources of pollutants, and 4) implementing a Comprehensive Stormwater Management Program (CSWMP).

CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARD

CCWQCB is the local agency of SWRCB and is responsible for the issuance of NPDES permits under the CWA and on behalf of the SWRCB and the EPA for activities that could cause water quality impacts to surface waters and groundwater, including construction activities. Since development of the project site would result in the disturbance of five or more acres, an NPDES construction activities permit would be required. The permit requires that the following general measures be implemented during construction activity:

- Eliminate or reduce non-storm water discharges to storm water systems and other waters of the U.S.;
- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP); and,
- Perform inspections of storm water control structures and pollution prevention measures.

CITY OF GREENFIELD ORDINANCES

New development projects in Greenfield are required to store and percolate 100 percent of the stormwater runoff from a 100-year storm event. Runoff that exceeds the quantity of a 100-year event is allowed to back into the street to a depth not deeper than the curb, which is approximately eight inches. Projects typically involve the use of retention ponds to store and percolate runoff.

CITY OF GREENFIELD GENERAL PLAN

Goal 4.12: Protect persons and property from the damaging impacts of flooding.

Policy 4.12.3: Where possible, develop new drainage facilities and/or improvements to existing facilities in order to provide additional recreational or environmental benefit; as such, detention basins over 5 acres in size shall be designed for multiple uses such as parks and playing fields when not used for holding water.

Policy 4.12.6: Develop open bypass channels, detention basins, and all drainage facility rights of way as a secondary recreation use for the development and adjacent neighborhood.

Policy 4.12.7: Explore the feasibility of a long-term drainage concept east of Highway 101 that collects drainage within a storm drain system with discharge to the Salinas River, as an alternative to surface basins.

Program 4.12.C
Require development projects with considerable drainage impacts to prepare a detailed drainage study by a registered engineer. The study shall include: detailed hydrologic modeling that considers land use, existing facilities, soil, and topographic data; erosion control and best management practices, descriptions of proposed flood control facilities; compliance with waste discharge requirements; cost estimates and construction schedule; and identification of the entity that is responsible for facility design and construction, Clean Water Program compliance, and facility maintenance.

Program 4.12.D
Drainage detention basins for individual projects will be combined where feasible to avoid the need for numerous smaller basins.

Goal 8.2: Protect public safety and minimize the risk to life and property from flooding.

Policy 8.2.1: New development shall provide site plans that identify all floodplains, flood hazards, and other natural drainages.

Program 8.2.B
Implement a development review process that will ensure any new construction within the 100-year floodplain or possible inundation areas will not compromise the health, safety, and welfare of the community.

3.8.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines and standards used by the City of Greenfield. For purposes of this EIR, the hydrology and water quality impacts associated with the proposed project are considered to be significant if the following would result from implementation of the proposed project:

1. Substantially alter the existing drainage pattern of the site area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site;

2. 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;

3. 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;

4. Place within a 100-year flood hazard area structures, which would impede or redirect flood flows;

5. 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; and/or

6. Be subject to inundation by seiche, tsunami, or mudflow.

METHODOLOGY

The following impact evaluation is based on the Engineering Feasibility Study prepared by C+D Engineers, which is contained in the Technical Appendices of this EIR. The Engineering Feasibility Study includes a preliminary discussion of infrastructure and utilities, including drainage facilities, required to serve the proposed project site. The policies and goals of the City of Greenfield were also used together with applicable resource documents to evaluate the potential drainage issues involved with the proposed development.

IMPACTS AND MITIGATION MEASURES

Alteration of Drainage Patterns / Increased Stormwater Runoff

Impact 3.8-1 Development resulting from project approval would alter existing drainage patterns, increase impervious surfaces and increase surface water runoff thus contributing to existing localized drainage, flooding and erosion problems on or off-site. This is a **potentially significant impact**

The proposed project would result in coverage of a significant portion of the project site with impervious surfaces (buildings and parking areas), and would result in a corresponding loss of on-site infiltration. Therefore, the volume and velocity of peak runoff leaving the project site could increase substantially with implementation of the proposed project. Land uses would include a highway commercial center, a residential subdivision and heavy industrial uses. The highway commercial center in particular could include significant areas of paved surfaces, such as a regional truck stop or similar uses.

Based on the preliminary engineering study, the proposed project would require multiple drainage basins to compensate for the large increase in impervious surfaces. Under project conditions, site drainage will be directed to via underground storm drain pipes to two storm water retention basins; one located on the west side of Highway 101 for APN 221-011-068 and one on the east side Highway 101 for APN 221-011-017, 018, 071.

On the west side, the estimated storage volume a basin designed for a 100-year storm event associated with the residential area is 3.0 acre-feet. This volume would require an area of 120 feet by 620 feet including a 10-foot roadway around the basin and a six-foot landscaping be designated on the project site for the drainage basin.

The other drainage basin would be on a portion of the project site located east of Highway 101. According to the information provided in the Engineering Feasibility Report, the basin may be designed as a park facility for 100-year storm water retention. If the basin were to be designed as a park facility, it would be open to the public for recreational use with a separate fenced area for the 25-year storm water retention basin. The 25-year storm water storage volume for the project site east of Highway 101 is 16 acre-feet. A basin with a 5.3-foot depth of water would require approximately 130,000 square feet or three acres of area. The additional volume for the 100-year storm water drainage would be 8.5 acres-feet, and would require a total area of 244 feet by 1,040 feet or approximately 5.8 acres. As stated previously configuration of the storm water drainage basin is flexible, but would most likely be located towards the northeast part of the project site to take advantage of the natural slope of the parcels.

The conversion of the project area from agriculture to urban uses would increase the amount of impervious surface area, such as paving or structural coverage. As a result, additional stormwater runoff from the project site and altered drainage patterns would occur. Grading activities may alter existing drainage patterns and lead to erosion and siltation on or off the project site. The following mitigation measures requiring the implementation of the above mentioned drainage basins would reduce the impact to **less than significant**.

MM 3.8-1a At the time of submittal of subsequent applications to develop the subject properties, the applicant shall provide a detailed drainage concept plan that adequately accommodates increased runoff. On the west side of the highway, basin plans shall be designed handle residential runoff and to avoid adding runoff to State drainage facilities at Highway 101. The City recommends that basin location be placed at the eastern end of the parcel to take advantage of existing slope, and to provide additional separation between residential uses, the Highway and El Camino Real.

The project applicant for any proposed development located on the east side of Highway 101 shall also provide a detailed drainage concept plan which addresses runoff from the 110 acres of proposed highway commercial and 60 acres of proposed industrial uses. The drainage concept plans for all areas shall be designed to contain 100-year storm events on-site and shall include: detailed hydrologic modeling that considers land use, existing facilities, soil, and topographic data; erosion control and best management practices, descriptions of proposed flood control facilities; compliance with waste discharge requirements; phasing and implementation; identification of the entity that is responsible for facility design and construction, Clean Water Program compliance, and facility maintenance. The detailed drainage concept plans shall be subject to review and approval by the Public Works Director and City Engineer.

MM 3.8-1b Where possible the retention basin should be developed to provide additional recreation benefits for the City; as such, retention basins over five acres in size shall be designed for multiple uses such as parks and playing fields when not used for holding water. All tentative maps and drainage improvements shall be subject to approval by the City Engineer and Public Works Director.

MM 3.8-1c In accordance with current State regulations, all future development resulting in grading or excavation, which disturbs five acres or more, shall require coverage under the NPDES General Permit. The discharger shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) and shall otherwise comply with all standards and regulations as required by the State Water Resources Control Board.

Flood / Inundation Hazards

Impact 3.8-2 The proposed annexation area is not within the recognized 100-year flood plain. Therefore, the impact is considered **less than significant**.

According to FEMA Flood Insurance Rate Map Community Panel No. 060195 0375 D, the annexation area is not located within a 100-year flood zone. Areas adjacent to the Salinas River, approximately one mile east of the project site are identified as being within the Zone A 100-year flood zone boundary. The area may be affected to a small degree by inundation resulting from the failure of either the Nacimiento or San Antonio Reservoir Dams as identified in the *Greenfield General Plan*; however, according to the *Monterey County Central Salinas Valley Area Plan*, the area is not subject to dam failure inundation. The project area is not located in a coastal area and is therefore not subject to tsunami or seiche and it is relatively flat and is not subject to mudflow. Therefore, floodplain hazards and impacts from potential inundation are **less than significant**. No mitigation is required.

Capacity of Existing / Planned Stormwater Drainage System

The City of Greenfield requires that off-site drainage from development project areas be the same or less after project completion as prior to development activities. The project will be required to mitigate project stormwater generation on-site with the construction of on-site retention basins and other best management practices, in accordance with City standards, and as identified in mitigation measures **MM 3.8-1a** through **MM 3.8-1c.** Potential impacts have therefore been mitigated.

Construction Water Quality

Impact 3.8-3 Slope and soil disturbance associated with site preparation, grading and construction activities resulting from the project, especially during the rainy season, may cause soil erosion and sedimentation or the release of other pollutants into adjacent waterways. This is a **potentially significant** impact.

Eventual construction on the project site would consist of substantial grading and vegetation removal activities, which would increase soil erosion rates on the areas of future proposed development. This results in the exposure of raw soil material to the natural elements (e.g. wind, rain) especially during the rainy season, which usually starts in October and ends in March. During the rainy season, grading operations may impact the surface runoff by increasing the amount of silt and debris carried by the storm water runoff. Areas with uncontrolled concentration flow will experience loss of material within the graded area and it could potentially impact the downstream water quality of area waterways, including the Salinas River and tributaries.

Refueling and the parking of construction equipment and other vehicles onsite during future construction may result in spills of oil, grease, or related pollutants that may discharge into onsite drainages. Improper handling, storage, or disposal of fuels and

materials or improper cleaning of machinery close area tributaries could cause water quality degradation.

Mitigation Measure

MM 3.8-3 All drainage and erosion control plans submitted in compliance with **MM 3.8-1a** through **3.8-1c** shall incorporate temporary measures effective from October 1 through March 31 that ensure eroded or exposed soils are maintained on-site during construction.

Implementation of the above mitigation measure, in conjunction with **MM 3.8-1a** through **MM 3.8-1c,** and compliance with all State laws and CEQA for all future projects, would reduce construction water quality impacts to a **less than significant** level by requiring coverage under the NPDES General Permit and drainage and erosion control plans with special measures for activities conducted during the rainy season.

Urban Non-point Source Pollution

Impact 3.8-4 The proposed project would generate urban non-point contaminants, which may be carried in stormwater runoff from paved surfaces to downstream water bodies. This is considered a **potentially significant impact.**

Upon construction of the project buildings, dwelling units, paved parking lots and the landscaping, typical urban runoff contaminants would include: petroleum products, heavy metals, and sediments from vehicles; pesticides, fertilizers and plant debris from landscaped areas; and litter. These pollutants would be flushed by storm runoff into the storm drainage system into retention basins. Most storm water ultimately drains to the east of the City, where it is collected in retention ponds near the sewage plant. City storm water does not drain to the Salinas River.

Implementation of **MM 3.8-1a through 3.8-1c** will mitigate the potential water quality impacts by requiring drainage facilities of adequate size (thus containing flows) and by incorporating erosion control and other permanent best management practices into the project would reduce the impact of non point source pollution to a **less than significant** level.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Surface Runoff and Contamination

Impact 3.8-5 New development, combined with other reasonably foreseeable projects in the City of Greenfield, would contribute to increased surface runoff

and greater runoff contamination in an area that historically was used for agriculture. This cumulative impact is considered **less than significant.**

Full buildout of the project site would contribute to cumulative drainage flows and surface water quality impacts when combined with other growth and development. However, the City of Greenfield requires that all new projects follow the City's retention design criteria, which requires all new developments to design and construct facilities such as stormwater retention basins adequate to limit flow to pre-development levels, and best management practices for control of surface water contaminants. The application of these standards and practices at each development site would result in minimization of the combined impact. Therefore, the cumulative storm water runoff and contamination impact is considered **less than significant**.

REFERENCES/DOCUMENTATION

City of Greenfield. *Greenfield General Plan*. October 2005

City of Greenfield. *General Plan EIR*. October 2005

Creegan + D'Angelo Consulting Civil and Structual Engineers. *Draft Engineering Feasibility Study*. December 9, 2005

Terra Engineering Inc. and Frietas + Freitas. *City of Greenfield Water System Capital Improvement Plan Update*. March 2005.

Coats Consulting, and the Law Offices of Aaron P. Johnson. Project description and plans.

County of Monterey. *Central Salinas Valley Area Plan*. 1987.

Federal Emergency Management Agency. *FIRM Flood Hazard Map, Community Panel No. 060195 0375 D*.

This Page Intentionally Left Blank

Section 3.9
Land Use

This section of the EIR describes the existing land uses of the project site, characterizes surrounding uses, and discusses the proposed project within the context of the policies of the City of Greenfield, Monterey County Local Agency Formation Commission, the County of Monterey, and the Association of Monterey Bay Area Governments. Potential impacts focus on consistency with adopted environmental plans and policies, compatibility between future residential, commercial and industrial uses, and the potential to disrupt or divide established neighborhoods.

3.9.1 EXISTING SETTING

REGIONAL SETTING

The City of Greenfield is located along Highway 101 in the heart of the Salinas Valley, approximately midway between King City and the City of Soledad. Thirty-five miles east of the Pacific Ocean, the City lies within the Central Salinas Valley in Monterey County. The region is predominately agricultural in its land use character and industries.

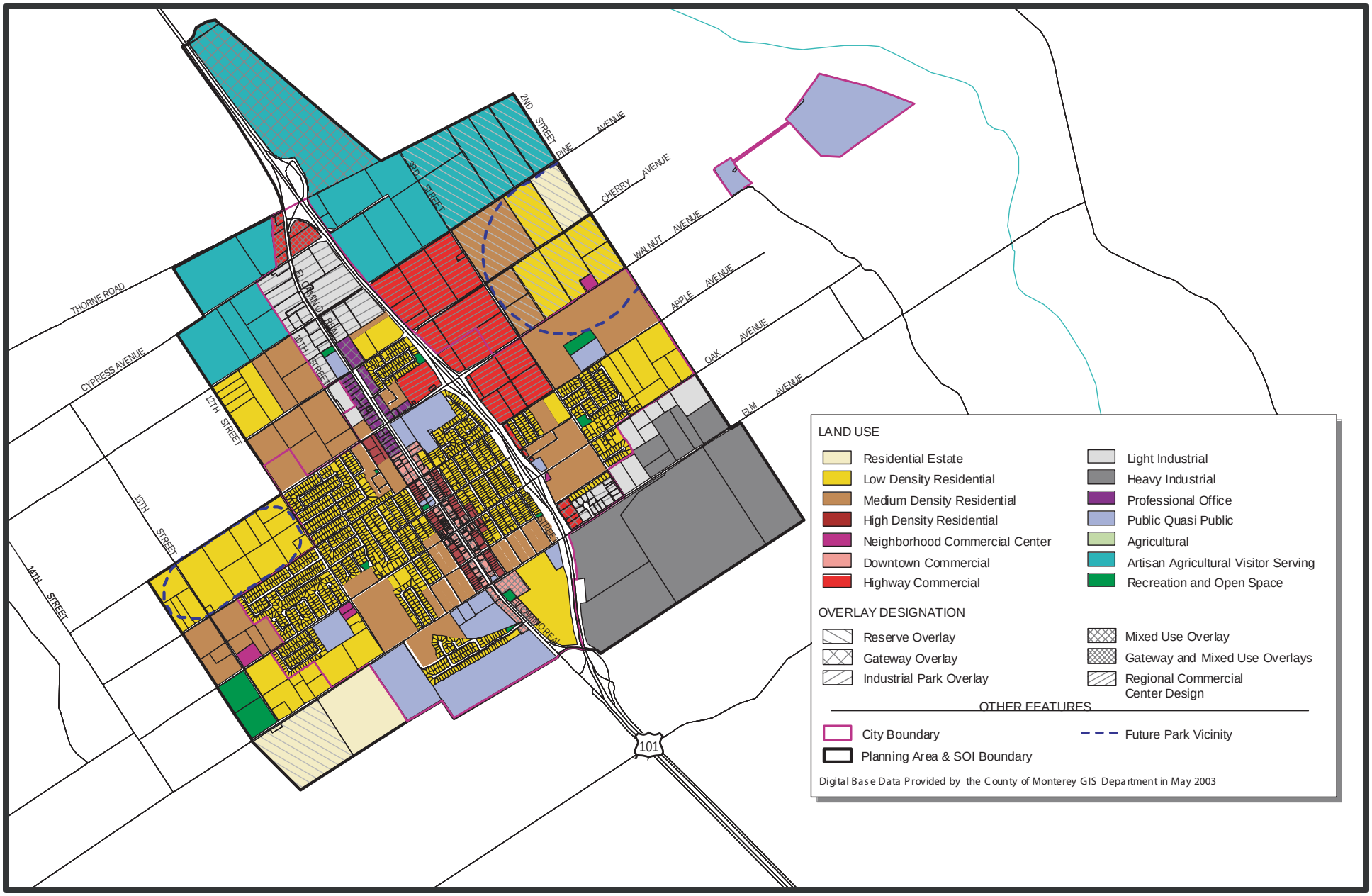
CITY-WIDE SETTING

The City of Greenfield was incorporated in January 1947 with a population of 1,650 residents. Today, the incorporated city has a population of more than 13,300 residents and is planned to grow to over 30,000 people with General Plan Buildout, in approximately 2025. The annual growth rate in recent years has been approximately 6.9 percent, exceptionally high but not uncommon in the fast growing cities of the Salinas Valley. The City's General Plan (2005) states that urban land in Greenfield comprises approximately 788 acres, surrounded primarily by vacant and agricultural uses. Historically, agriculture has been the basic industry of the Salinas Valley and Greenfield lies within an area of high quality agricultural land.

City of Greenfield "Planning Area" and Sphere of Influence Boundary

The City's "Planning Area", as determined by the City of Greenfield General Plan, includes land within the incorporated city limits of Greenfield and unincorporated areas surrounding the City. The Planning Area and proposed Sphere of Influence (SOI) as adopted by the City in 2005 share the same boundary. The Planning Area and SOI are considered to have a direct impact on the City's development and include surrounding lands that are economically and physically related to the City and, in the City's judgment, "bear a significant relationship to the City's planning", in accordance with State law. **Figure 3.9-1** depicts the City of Greenfield Planning Area and SOI as adopted in May 2005. **Figure 3.9-2** illustrates proposed amendments to the General Plan and SOI currently being processed by the City. These city-initiated amendments reflect, but are not part of, the South End SOI project.

This Page Intentionally Left Blank



T:\City of Greenfield\Graphic Development\Figures\Figure 3.9-1.ai, January 2006

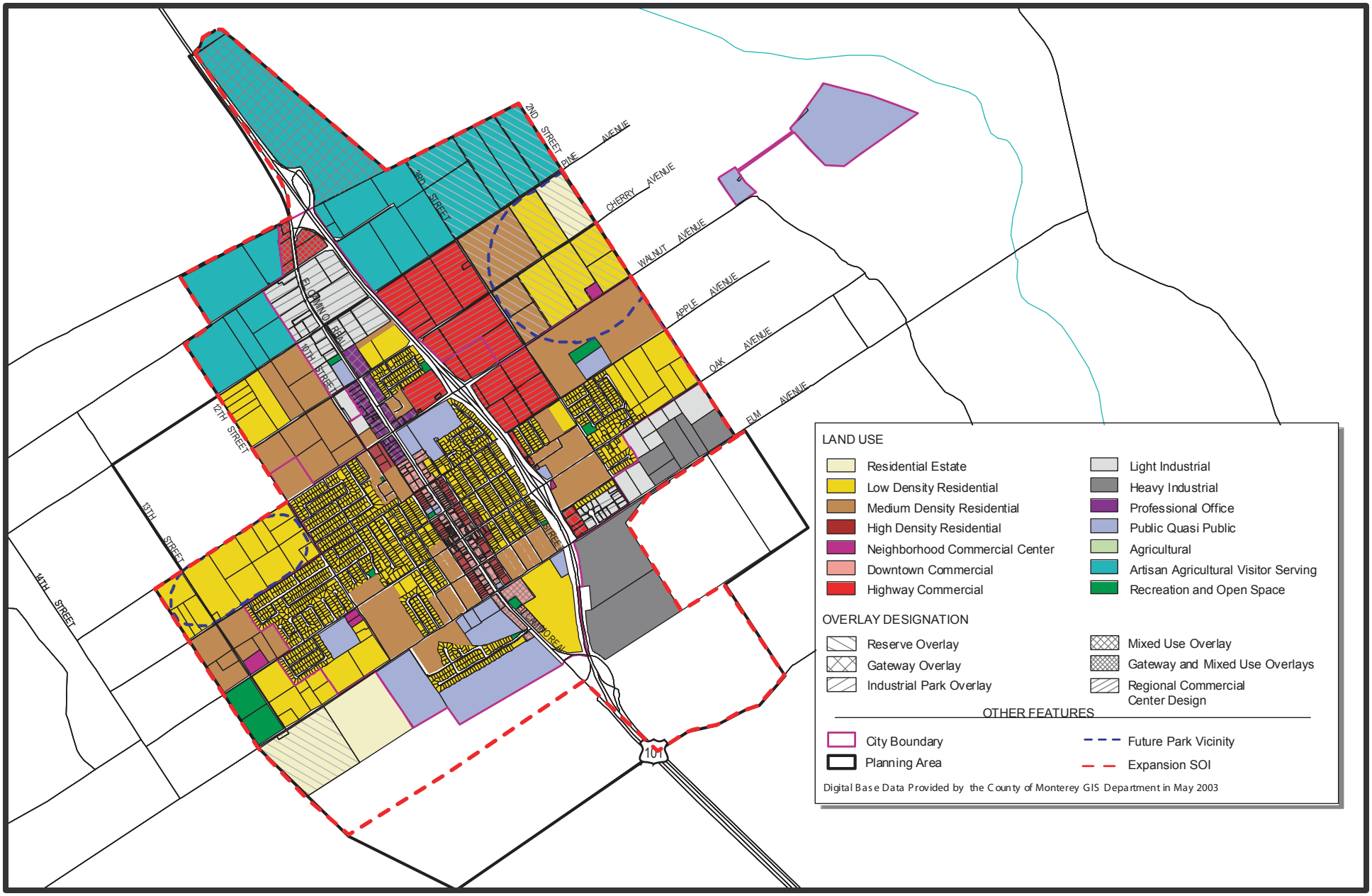
0 1000 2000
SCALE IN FEET

N

FIGURE 3.9-1
ADOPTED GREENFIELD GENERAL PLAN

PMC

This page is intentionally left blank



T:\City of Greenfield\Graphic Development\Figures\Figure 3.9-2.ai, January 2006

0 1000 2000
SCALE IN FEET

N

FIGURE 3.9-2

GENERAL PLAN AND SOI BOUNDARIES AS PROPOSED FOR AMENDMENT

PMC

This page left intentionally blank

Existing General Plan Designations

The northeastern 46 acres of the project area (within the City's designated Planning Area), are currently designated "Heavy Industrial". The remaining 221 acres of the project site are outside the City of Greenfield Planning Area and are general planned as Agriculture by Monterey County.

General Plan Gateway Overlay

Commercial and visitor serving areas that are located at the northern and southern entrances to the community serve as "gateways" to Greenfield. According to the General Plan, these areas should be aesthetically attractive since they provide an influential visual statement regarding the character of the community. The purpose of the gateway overlay is to require attractive signage, additional landscaping, and greater attention to building design. The entire 267-acre project site would be subject to the City's Gateway overlay.

SITE SETTING AND EXISTING LAND USES

Highway 101 bisects the 267-acre project site. All parcels that comprise the project site are currently used for agriculture production, mainly row crops, with the exception of the three-acre L.A Hearne parcel that is used as an agricultural equipment storage facility. Other improvements are limited to a single-family residence and related metal shed on the east side of the highway, as well as ranch roads and other features that support the agricultural use.

ADJACENT USES

The project site consists of four parcels. Adjacent land uses are described below and are illustrated in **Figure 3.9-3.**

West Side of U.S 101

Land Uses to the North

On the west side of Highway 101, the northern portion of the project site borders Greenfield High School and the Vista Verde Middle School.

Land Uses to the South

Active agricultural fields, including row crops and vineyards, are located south of the project site.

Land Uses to the East

El Camino Real serves as the eastern border of the project site west of U.S. 101. An active fertilizer distribution facility (NH3) is located between the El Camino Real southbound Highway 101 on ramp, directly east of the project site.

Land Uses to the West

Active agricultural uses are located west of the project site including various row crops.

Eastside of U.S. 101

Land Uses to the North

East of Highway 101, lands to the north of the project site support active agricultural. The Creekbridge Homes St. Charles Place mixed use development, currently under construction, is located to the northwest between the highway and El Camino Real.

Land Uses to the South and East

Espinosa Road serves as the southern border of the project site east of Highway 101. South of Espinosa Road is active agricultural, as is land use to the east.

Land Uses to the West

Highway 101 serves as the western border of the project site east of Highway 101.

T:\City of Greenfield\Graphic Development\Figures\Figure 3.9-3.ai, January 2006

No Scale

N

Figure 3.9-3
Surrounding Land Uses Aerial

PMC

This page is intentionally left blank

3.9.2 REGULATORY SETTING

The purpose of this section is to evaluate the proposed project for land use consistency with relevant adopted plans and policies. These include policies of the City of Greenfield, Local Agency Formation Commission (LAFCO), and Monterey County. Policy consistency is relevant to the EIR process when policies are in place specifically to further an agency's environmental goals.

City of Greenfield General Plan

The majority of the project area is not located in the Planning Area established by the *City of Greenfield General Plan*. However upon inclusion of the project into the City's SOI the project site will need to be consistent with goals, policies and programs contained in the *City of Greenfield General Plan*. **Table 3.9-1** summarizes city land use policy as it relates to the project.

TABLE 3.9-1
CITY OF GREENFIELD LAND USE POLICY

Policy No.	Policy Summary	Discussion
Goal 2.1	Ensure that redevelopment and new development is designed, sited, and constructed in a manner that creates a balanced and desirable city, maintains and enhances the character and best qualities of the community, and ensures that Greenfield remains economically viable.	The proposed project will aide the City's goal of promoting a better jobs/housing balance. The project will be subject to the City's Gateway Overlay, requiring the project to meet higher design standards and maintain community character. Highway commercial and industrial uses will enhance the local economy.
Policy 2.1.6	Limit intensive commercial and industrial development to the industrial park on the north side of the City and areas east of Highway 101.	The project area is located east of Highway 101 as envisioned by the General Plan.
Policy 2.1.7	Require agricultural buffers on developments adjacent to agricultural land consistent with the Local Agency Formation Commission's (LAFCO) requirements.	Mitigation is provided in Section 3.2 of the EIR regarding agricultural setbacks. The majority of the project is not sensitive to adjacent agriculture.
Policy 2.1.12	Where differing land uses abut one another, promote land use compatibility with buffering techniques such as landscaping, setbacks, screening and, where necessary, construction of sound walls.	See above.

TABLE 3.9-1
CITY OF GREENFIELD LAND USE POLICY

Policy No.	Policy Summary	Discussion
Policy 2.3.6	Encourage the location of highway commercial uses, such as gas stations, convenience stores, and restaurants, in areas convenient to regional travelers.	The proposed project will include Highway Commercial uses immediately adjacent to the freeway.
Program 2.3D	Apply the Regional Commercial Center Overlay to lands that are annexed for regional Highway Commercial development.	The Regional Commercial Center is located to the north of the project site along 3rd Street. The South End SOI project is not intended to be the City's regional commercial center.
Goal 2.4	Provide land with available infrastructure to attract light and heavy industrial uses suitable to Greenfield to help achieve an appropriate jobs/ housing balance.	The project is proposing Highway commercial and Heavy Industrial development that will help Greenfield achieve a better jobs/housing balance. Infrastructure systems in this southern area will require expansion but are located in an area where extensions are feasible.
Policy 2.4.1	Discourage the premature conversion of industrially designated land to other designations or uses.	The project is proposing a GPA to have a parcel currently designated for Heavy Industrial changed to Highway Commercial use. However, additional industrial lands are also proposed, so there is no "loss" or premature conversion of job-generating acreage.
Policy 2.9.1	Enhance community character by the development of entry signs, landscaping, and other appropriate amenities in the northern and southern Gateway Overlay areas.	The proposed project will act as an entryway into the southern portion of the City of Greenfield. The project will be held to a higher standard of design pursuant to the Gateway overlay.

City of Greenfield Zoning Ordinance

Should the project be approved, the area east of Highway 101 would be pre-zoned for Highway Commercial and Heavy Industrial use. The current City of Greenfield Zoning code does not contain a designation for heavy industrial use; however the City is in the process of updating the code to reflect the uses identified in the 2005 Greenfield General Plan. West of Highway 101 the site be pre-zoned Low Density Residential (R-1). The R-1 low density residential zoning designation permits a maximum of seven dwelling units/acre. The project is evaluated using this maximum density.

LOCAL AGENCY FORMATION COMMISSION

The Monterey County LAFCO is responsible for coordinating logical and timely changes in local governmental boundaries (reorganizations), including annexations, incorporations of new cities and boundary changes.

Standards for the Evaluation

LAFCO has adopted policies to guide the agency in its decision-making process, as identified in the *Standards for the Evaluation of Proposals*. According to this document, the underlying purpose of Monterey County LAFCO is to discourage urban sprawl and encourage the orderly formation and development of local agencies. **Table 3.9-2** summarizes relevant LAFCO policies and provides analysis of the proposed project.

TABLE 3.9-2
LAFCO POLICY ANALYSIS

Policy Summary	Discussion
General Policy	
The proposal should be consistent with the appropriate city or county general and specific plans.	The proposed project is consistent with the *City of Greenfield General Plan (2006 amendment)*, *Central Salinas Valley Area Plan and the Monterey County General Plan*.
The proposal shall be consistent with the Sphere of Influence for the affected local agency.	The project seeks to amend the Sphere of Influence concurrently with the City of Greenfield's city-wide SOI amendment to LAFCO.
Proposals involving annexation shall comply with the Urban Service Area and Urban Transition Area designations.	According to LAFCO Resolution No. 92-27, 168 acres of the South End Annexation area is not within either the Urban Service Area or Urban Transition Area. However, an amendment to the SOI is included concurrent with the annexation application, which would include an amendment to the Urban Transition Area.
LAFCO shall not have the power to disapprove an annexation of contiguous territory if it is located within the Urban Service Area, is not prime agricultural land, and is designated for urban growth by the annexing city's general plan.	The proposed South End SOI project site is not currently located within the City of Greenfield Urban Service Area, and approximately 98 percent of the project site is located on prime farmland. The project is subject to review and approval by LAFCO.

Groundwater Standards	
LAFCO will encourage proposals that incorporate water conservation measures.	The South End Project is subject to the City of Greenfield's conversation policies as stated in the General Plan.
LAFCO will encourage proposals that comply with adopted water allocation plans.	There is no adopted water allocation plan in the City of Greenfield. Groundwater resources are of sufficient quantity and quality to serve the project, as well as the City's larger planning area.
LAFCO will encourage proposals in jurisdictions that have achieved water savings or new water sources that will off-set increases in water usage attributable to the project.	The City of Greenfield uses a progressive pricing structure for water to encourage water savings. Historically, water usage for agricultural uses has been less than potable water needs for urban uses.
LAFCO will discourage proposals that contribute to the cumulative adverse impact on the groundwater basin unless it can be found that the proposal promotes the planned and orderly development of the area.	The groundwater conditions in the southern sub-basin of the Salinas Valley aquifer are sufficient in quantity and quality to serve the project. Although the General Plan EIR identifies a potentially significant impact associated with cumulative development within the Salinas Valley, the City's policies support water conservation and other long term measures (such as the Salinas Valley Water Project) to address this issue at a regional level. The proposal contributes to the planned and orderly development of the area by implementing the *City of Greenfield General*. The proposal requests an amendment of the SOI boundary, and GPA to include commercial and industrial uses to create aide the City's effort to create a balance between jobs and housing and to stimulate economic development.
LAFCO will discourage proposals which, when considered individually and after taking into account all mitigation measures to be implemented with the project, still cause an unavoidable significant adverse impact on the groundwater basin.	See above. As discussed in the Hydrology section of the EIR, the project with mitigation measures will not result in a significant and unavoidable adverse impact on the groundwater basin.

MONTEREY COUNTY LAND USE POLICY

The County of Monterey regulates land use in the unincorporated areas adjacent to the City of Greenfield. Relevant policies and programs are contained in the *County of Monterey General Plan* and the *Central Salinas Valley Area Plan*. Upon approval and ultimate annexation the South End SOI project will county planning documents. There are no specific policies in these documents that would present a clear conflict in land use policy with implementation of the project.

3.9.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines and other performance standards recognized by the City of Greenfield. For the purposes of this EIR, impacts are considered significant if the following would result from implementation of the proposed project:

1. 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 mitigation an environmental effect;

2. Physically divide an established community;

3. Conflict with any applicable habitat conservation plan or natural community conservation plan; or

4. Involve land uses that are found to be incompatible with surrounding uses, or internally incompatible.

METHODOLOGY

The evaluation of potential land use impacts is based on field reconnaissance and several documents including the City of Greenfield General Plan and Municipal Code, Monterey County General Plan and Central Salinas Valley Land Use Plan, the applicant's project description and application and letters received during the Notice of Preparation review period.

PROJECT IMPACTS AND MITIGATION MEASURES

Conflicts with Goals and Policies Adopted to Avoid or Mitigate Environmental Effects

Impact 3.9-1 Inclusion of the South End SOI project area within the recognized Greenfield General Plan and Sphere of Influence will be consistent with the goals and policies of the City of Greenfield and affected agencies. This is a **less than significant** impact.

The project will result in a logical boundary adjustment (Sphere of Influence Amendment) to accommodate the planned, highway commercial development, heavy industrial development, as well as the 47 acres of low density residential development anticipated on the west side of Highway 101 south of the Greenfield High School. The City has

determined that this area can be incorporated into its urban service boundaries, and that the uses proposed further the economic development and environmental goals of the City.

The City of Greenfield is currently amending its adopted General Plan to remove 172 acres of Heavy Industrial land on the southeast side of the City, and to square off its SOI in the City's southwest corner. By coordinating these adjustments with the South End SOI project, the City is avoiding an area of exceptionally high agricultural value, while maintaining the integrity of the General Plan's land use program and economic development goals. Consistency with city land use policy is demonstrated in **Table 3.9-1**.

LAFCO has approval authority over the Sphere of Influence amendment and any subsequent or concurrent request for annexation. One of the missions of LAFCO is to discourage urban sprawl, avoid premature conversion of agricultural land, and encourage the orderly formation and development of local agencies. Based upon the analysis of LAFCO policies shown in **Table 3.9-2**, the project is consistent with LAFCO's *Standards for the Evaluation of Proposals*. No mitigation is required.

Conflicts with Applicable Habitat Conservation Plan

There are no habitat conservation plans within or adjacent to the City of Greenfield. Therefore, **no impact** would occur.

Effects Upon an Established Community

Impact 3.9-2 The amendment of the SOI, GPA, annexation and eventual site development will place new urban land uses at the southern edge of existing neighborhoods in Greenfield. This is a **less than significant** impact.

The South End SOI project area is located adjacent to the City's s SOI and incorporated boundary, in an area used almost exclusively for agriculture. There is one residential home located on the project site, with the nearest established neighborhoods represent by St. Charles Place and the neighborhood located north of the high school. Neither of these established neighborhoods or community areas will be divided or disrupted by the project. No mitigation is required.

Conflict with Surrounding Land Uses

Impact 3.9-3 Development of the project area could impact, or be impacted by, adjacent environmental conditions on neighboring properties. This is a **potentially significant** impact.

Land use impacts are primarily a function of the project's compatibility with surrounding adjacent land uses, which in this case are primarily agriculture fields or agricultural

industrial uses. Land use compatibility is measured in terms of specific environmental effects such as noise, air quality (including dust and odor), aesthetics and traffic. To the greatest extent possible, the EIR uses quantifiable data to measure such impacts, which can have an effect upon the "quality of life" in a defined area. For this reason, the land use analysis is supported by other specific discussions within the EIR including Section 3.11, Traffic and Circulation; Section 3.10, Noise; Section 3.3, Air Quality; Section 3.2 Agricultural Resources; and, Section 3.1, Aesthetic and Visual Resources.

The proposed Highway Commercial and Heavy Industrial portions of the project would be compatible with existing agricultural and other industrial uses north of the project site as indicated in the Greenfield General Plan. The compatibility of low-density residential uses, however, is dependent upon ultimate site plan design and incorporation of appropriate separation between new residences and adjacent uses such as active agriculture, El Camino Real, and the high school. Mitigation measures from other sections of the EIR listed above will mitigate land use conflicts to a **less than significant** level.

A secondary land use issue involves the small (3+/- acre) parcel lodged between El Camino Real and Highway 101. This parcel, which is the current location of the NH3 Service Company, is not in the applicant's future development plans. However, the parcel is within the proposed SOI boundary. Future actions to annex property within the project boundaries should also involve annexation of this parcel in order to avoid creation of a land use "island". To ensure this occurs, the following land use mitigation is required.

MM 3.9-3 The application for annexation of the Scheid West parcel shall also include annexation of the "NH3 Service Company" parcel.

Inclusion of this parcel in the future annexation of the project will mitigate the land use impact to a **less than significant** level.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Consistency with Applicable Land Use Plans, Policies, or Regulations

Impact 3.9-4 The proposed project, combined with other foreseeable projects in the City of Greenfield, will contribute to the changing urban landscape in the Greenfield area. This is a **less than significant** impact.

As the City of Greenfield continues to develop according to its General Plan, growth is expected to occur in a planned and organized manner over a period of approximately 20 years. The project as proposed will represent the southern boundary of that plan. The land use impacts identified are mitigated on a project-specific level, and no other land use issues

from cumulative development within the City will "combine" with the project to create a new significant impacts.

REFERENCES/DOCUMENTATION

City of Greenfield. *Greenfield General Plan*. October 2005.

City of Greenfield. *General Plan EIR*. October 2005.

County of Monterey. *Monterey County General Plan*. 1982.

County of Monterey. *Central Salinas Valley Area Plan*. 1987.

Monterey County Local Agency Formation Commission. *Standards for the Evaluation of Proposals*. 1994.

City/County Population Estimates, California Department of Finance, January 1, 2005.

Geary Coats (Coats Consulting) and the Law Offices of Aaron P. Johnson. Project information from application material.

Section 3.10
Noise

This section of the EIR discusses the existing noise environment of the area and identifies predicted changes to that environment that may result from the proposed project. The analysis quantifies noise levels caused by project-generated traffic at the nearest sensitive land uses, and compares those levels to City standards. The analysis is based upon the environmental noise analysis conducted by Ambient Air Quality and Noise Consulting, contained within the Technical Appendices.

3.10.1 EXISTING SETTING

BACKGROUND

Acoustic Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. Sound, is mechanical energy transmitted in the form of a wave because of a disturbance or vibration.

Amplitude is the difference between ambient air pressure and the peak pressure of the sound wave. Amplitude is measured in decibels (dB) on a logarithmic scale, e.g. a 65 dB source of sound, such as a truck, when accompanied by another 65 dB source results in sound amplitude of 68 dB, not 130 dB. Amplitude is interpreted by the ear as corresponding to different degrees of loudness.

Frequency is the number of fluctuations of the pressure wave per second. The unit of frequency is the hertz (Hz). One Hz equals one cycle per second. The human ear is not equally sensitive to sound of different frequencies. Sound waves below 16 Hz or above 20,000 Hz cannot be heard at all, and the ear is more sensitive to sound in the higher portion of this range than in the lower. To approximate this sensitivity, environmental sound is usually measured in A-weighted decibels (dBA). On this scale, the normal range of human hearing extends from about 10 dBA to about 140 dBA.

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates at a rate between 3.0 to 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. For mobile transportation sources, such as highways, hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3.0 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance from the source. Noise generated by stationary sources typically attenuates at a rate of approximately 6.0 to 7.5 dBA per doubling of distance from the source.

Sound levels can be reduced by placing barriers between the noise source and the receiver. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver. Buildings, concrete walls, and berms can all act as effective noise barriers. Wooden fences or broad areas of dense foliage can also reduce noise, but are less effective than solid barriers.

Acoustical Terminology

Term	Definition
Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
SNEL	Single Event Noise Level. The SEL describes a receiver's cumulative noise exposure from a single noise event, which is defined as an acoustical event of short duration and involves a change in sound pressure above some referenced value.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
Lmax	The maximum instantaneous noise level during a specific period of time.
Lmin	The minimum instantaneous noise level during a specific period of time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases. The acceptability of noise and the threat to public well being are the basis for land use planning policies preventing exposure to excessive community noise levels.

There is no completely satisfactory way to measure the subjective effects of noise or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and habituation to noise over differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted: the so-called "ambient" environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged. Regarding increases in A-weighted noise levels, knowledge of the following relationships will be helpful in understanding the analysis of noise impacts within this section of the EIR.

Except in carefully controlled laboratory experiments, humans cannot perceive a change of 1 dB. Outside of the laboratory, a 3-dB change is considered a just-perceivable difference. A change in level of at least 5 dB is required before any noticeable change in community response would be expected. An increase of 5 dB is typically considered substantial. A 10-dB change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

NOISE IN THE PROJECT VICINITY

Existing Noise Sensitive Land Uses

Noise-sensitive land uses generally include those uses where exposure to noise would result in adverse effects, as well as uses where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other noise-sensitive land uses include hospitals, convalescent facilities, parks, hotels, churches, libraries, and other uses where low interior noise levels are essential.

The project site consists of four separate parcels. Three parcels are located east of Highway-101 and one parcel is located west of Highway 101. These parcels consist

primarily of agricultural uses, with the exception of a single rural residential dwelling, and the LA Hearne Company agricultural equipment storage facilities, located east of Highway-101. Noise-sensitive land uses located near the project site consist primarily of rural residential dwellings, the nearest of which is located east of Highway 101, approximately 200 feet south of the project site. Greenfield High School and Vista Verde Middle School, which is also considered a noise-sensitive land use, is located west of Highway 101, adjacent to the northern boundary of the project site.

3.10.2 REGULATORY SETTING

CITY OF GREENFIELD

Within the City of Greenfield, noise is dealt with on a site specific basis and is typically limited by conditions of approval applied to new projects, which may include limitations on construction or operational hours. Within the City of Greenfield construction activities are typically limited to between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday.

City of Greenfield General Plan

The Noise Element of the City of Greenfield General Plan contains policies designed to accomplish the following goals:

1. Protect the community from the harmful and annoying effects of exposure to excessive noise, and

2. Protect the economic base of the City by preventing the encroachment of noise-sensitive land uses into areas affected by existing noise-producing uses.

The City's General Plan includes maximum allowable exterior and interior noise standards for projects affected by transportation and non-transportation noise sources. Noise compatibility of proposed development is determined in comparison to these standards. The City's applicable noise standards for projects affected by transportation noise sources are presented in **Table 3.10-1**. Noise standards for projects affected by non-transportation noise sources are summarized in **Tables 3.10-2**. The City's land use compatibility noise criteria (in CNEL/L_{dn}) are summarized in **Table 3.10-3**.

TABLE 3.10-1
NOISE STANDARDS FOR NEW USES AFFECTED BY TRANSPORTATION NOISE

New Land Use	Outdoor Activity Area (dBA CNEL/L_{dn})	Interior - Ldn/Peak Hour (dBA L_{eq})[1]
All Residential [2, 3, 4]	60-65	45
Transient Lodging [5]	65	45
Hospitals & Nursing Homes [6]	60	45
Theaters & Auditoriums	---	35
Churches, Meeting Halls, Schools, Libraries	60	40
Office Buildings [7]	65	45
Commercial Buildings [7]	65	50
Playgrounds, Parks, etc.	70	---
Industry [7]	65	50

[1] For traffic noise within the City of Greenfield, Ldn and peak-hour Leq values are estimated to be approximately similar. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
[2] Outdoor activity areas for single-family residential uses are defined as back yards. For large parcels or residences with no clearly defined outdoor activity area, the standard shall be applicable within a 100-foot radius of the residence.
[3] For multi-family residential uses, the exterior noise level standard shall be applied at the common outdoor recreation area, such as at pools, play areas or tennis courts. Where such areas are not provided, the standards shall be applied at individual patios and balconies of the development.
[4] Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
[5] Outdoor activity areas of transient lodging facilities include swimming pool and picnic areas.
[6] Hospitals are often noise generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
[7] Only the exterior spaces of these uses designated for employee or customer relaxation have any degree of sensitivity to noise.
Source: *City of Greenfield 2005 General Plan Noise Element*

TABLE 3.10-2
NOISE STANDARDS FOR NEW PROJECTS AFFECTED BY OR INCLUDING NON-TRANSPORTATION NOISE

New Land Use	Outdoor Activity Area - L_{eq}		Interior - L_{eq} Day and Night
	Daytime	Nighttime	
All Residential [3,4]	50	45	35
Transient Lodging [5]	55	---	40
Hospitals & Nursing Homes [6]	50	45	35
Theaters & Auditoriums	---	---	35
Churches, Meeting Halls, Schools, Libraries	55	---	40
Office Buildings [7,8]	55	---	45
Commercial Buildings [7.8]	55	---	45
Playgrounds, Parks [8]	65	---	---
Industry [7]	65	65	50

1. Noise Level performance standards for new lands uses affected by or including non-transportation noise sources are indicated using a Hourly L_{eq}, dB noise level descriptor. Daytime activities occur between the hours of 7a.m. to 10 p.m. and nighttime activities occur between 10 p.m. to 7 a.m. The Hourly Leq, dB for the daytime standard is 55 and the nighttime is 45. Noise level standards for specified uses are described in theTable above.
2. Fixed noise sources which are typically of concern include, but are not limited to the following: HVAC Systems, Cooling Towers/Evaporative Condensers, Pump Stations, Lift Stations Emergency Generators, Boilers, Steam Valves, Steam Turbines, Generators, Fans, Air Compressors, Heavy Equipment, Conveyor Systems, Transformers, Pile Drivers, Grinders, Drill Rigs, Gas or Diesel Motors, Welders, Cutting Equipment, Outdoor Speakers, Blowers. The types of uses which may typically produce the noise sources described above include but are not limited to: industrial facilities including pump stations, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, sand and gravel operations, and athletic fields.
3. Outdoor activity areas for single-family residential uses are defined as back yards. For large parcels or residences with no clearly defined outdoor activity area, the standard shall be applicable within a 100-foot radius of the residence.
4. For multi-family residential uses, the exterior noise level standard shall be applied at the common outdoor recreation area, such as at pools, play areas or tennis courts. Where such areas are not provided, the standards shall be applied at individual patios and balconies of the development.
5. Outdoor activity areas of transient lodging facilities include swimming pool and picnic areas, and are not commonly used during nighttime hours.
6. Hospitals are often noise generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
7. Only the exterior spaces of these uses designated for employee or customer relaxation have any degree of sensitivity to noise.
8. The outdoor activity areas of office, commercial and park uses are not typically utilized during nighttime hours. General: The Table 5 standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards of Table 5, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.

Source: City of Greenfield 2005 General Plan Noise Element

TABLE 3.10-3
CITY OF GREENFIELD
LAND USE NOISE COMPATIBILITY CRITERIA

Land Use Category	Community Noise Exposure (Ldn or CNEL, dBA)			
	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Residential-Single Family, Duplex, Mobile Home	<60	55–70	70–75	>75
Residential-Multiple Family	<65	60–70	70–75	>75
Transient Lodging, Motel, Hotel	<65	60–70	70–80	>80
School, Library, Church, Hospital, Nursing Home	<70	60–70	70–80	>80
Auditorium, Concert Hall, Amphitheater	---	<70	---	>65
Sports Arenas, Outdoor Spectator Sports	---	<75	---	>70
Playground, Neighborhood Park	<70	---	67.5–75	>72.5
Golf Course, Stable, Water Recreation, Cemetery	<75	---	70–80	>80
Office Building, Commercial and Professional	<70	---	67.5–77.5	>75
Industrial, Manufacturing, Utilities, Agriculture	<75	---	70–80	>75

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.

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 not be undertaken.

Source: City of Greenfield 2005 General Plan Noise Element

FEDERAL INTERAGENCY COMMITTEE ON NOISE

The effects of increased traffic noise resulting from a new project at existing off-site and on-site noise-sensitive land uses are often evaluated using standards developed by the Federal Interagency Committee on Noise (FICON). The FICON standards provide thresholds for likely noise impacts based on the difference between anticipated project-related noise level increase and the pre-project ambient noise conditions.

The FICON standards are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were developed to assess aircraft noise impacts, they have commonly been applied to all

sources of noise that are described in terms of cumulative noise exposure metrics such as L_{dn}. The FICON standards are shown in **Table 3.10-4**.

TABLE 3.10-4
SIGNIFICANCE OF CHANGES IN CUMULATIVE NOISE EXPOSURE

Ambient Noise Level Without Project (L_{dn} or CNEL)	Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON).

3.10.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed, as discussed previously in the Regulatory Setting. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local planning criteria or ordinances, or substantially increase noise levels at noise-sensitive land uses.

For this EIR, noise impacts associated with the proposed project would be considered significant if the following were to occur:

1. Short-term noise levels from construction activities were to exceed applicable exterior and interior noise standards by the City of Greenfield (Standards identified in **Table 3.10-2**).

2. The proposed project would cause a substantial increase in long-term transportation noise levels that exceed the City's noise-control standards for transportation noise sources (identified in **Table 3.10-1**).

3. Development of the proposed residential, highway commercial and industrial uses would cause long term stationary source noise increases at nearby noise sensitive land uses that would exceed the City's noise control standards for non-transportation noise sources (an increase of 5 dBA in areas where ambient noise levels are less than 60 dBA CNEL/Ldn; an increase of 3 dBA where ambient noise levels range from 60 to 65 dBA CNEL/Ldn; and an increase of 1.5 dBA where ambient noise levels exceed 65 dBA CNEL/Ldn.)

4. Land use compatibility with projected on-site noise levels would result in the development of land uses in areas where existing or projected noise levels would exceed the threshold established by the City of Greenfield (**Table 3.10-4**). (For residential land uses, noise levels in new outdoor residential areas should not exceed 60 dBA L_{dn}/CNEL unless the design includes reasonable mitigation to reduce noise in outdoor activity areas. Exterior noise levels of up to 65 dBA L_{dn}/CNEL may be allowed provided mitigation has been incorporated. For industrial land uses, exterior noise levels should not exceed 75 dBA L_{dn}/CNEL.)

5. The project would contribute significantly to any cumulative noise impact.

METHODOLOGY

Ambient Noise Survey

As part of the Environmental Noise Assessment, Ambient Air Quality and Noise Consultants completed an ambient noise survey on November 22, 2005 to document the existing noise environment at various locations within the project area. Short-term (i.e., 15-minute) noise level measurements were taken along the project boundaries located nearest Highway 101. Measurements were conducted in accordance with the American National Standards Institute (ANSI) acoustical standards using a Larson Davis model 820 sound level meter.

Based on the monitoring conducted, ambient average-hourly noise levels at the boundaries of the project site ranged from approximately 56 dBA L_{eq} at the project boundary located east of Highway 101 to approximately 71 dBA L_{eq} at the project boundary located west of Highway 101. The dominant noise source identified for parcels located east of the highway was vehicular traffic on Highway 101. For the parcel located west of the highway, the dominant noise source noted during the ambient noise survey was the NH_3 Service Company fertilizer dispensing facility, which is located along El Camino Real, east of the proposed residential development.

PROJECT IMPACTS AND MITIGATION MEASURES

Construction Noise

Impact 3.10-1 The proposed project could result in construction-related noise that would exceed applicable City noise standards at nearby noise-sensitive land uses. This impact is considered a **potentially significant** impact.

During the construction phases of the project (e.g. demolition/land clearing, grading and excavation, erection), noise from construction activities would add to the noise environment in the immediate project vicinity. Noise generated by construction

equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical noise levels for individual pieces of construction equipment are summarized in **Table 3.10-5**.

TABLE 3.10-5
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Type of Equipment	Noise Level in dBA at 50 feet	
	Without Feasible Noise Control	With Feasible Noise Control [1]
Dozer or Tractor	80	75
Excavator	88	80
Compactor	82	75
Front-end Loader	79	75
Backhoe	85	75
Grader	85	75
Crane	83	75
Generator	78	75
Truck	91	75

[1] Feasible noise control includes the use of intake mufflers, exhaust mufflers, and engine shrouds.

Sources: U.S. Environmental Protection Agency 1971; Federal Transit Administration 1995

Individual equipment noise levels typically range from approximately 75 to 91 dBA at 50 feet. Typical operating cycles may involve two minutes of full power, followed by three or four minutes at lower power settings. Depending on the activities performed and equipment usage requirements, combined average-hourly noise levels at construction sites typically range from approximately 65 to 89 dBA L_{eq} at 50 feet.

Assuming a maximum construction noise level of 89 dBA L_{eq} and an average attenuation rate of 6 dBA per doubling of distance from the source, construction activities located within approximately 1,500 feet of noise-sensitive receptors could reach levels of approximately 60 dBA L_{eq}. Construction activities may result in increased noise levels within nearby classrooms at Greenfield High School, creating the possibility of an annoyance. Permanent classrooms are located approximately 150 feet away from the project site and relocatable classrooms are located approximately 75 feet from the project site. Upon conversation with the Vice Principal Dan Andrus of Greenfield High School by PMC Staff, it was noted that construction activates at the Arroyo Seco Center project adjacent to the northeast of the High School have not been a nuisance to classroom activities. However construction activities at the South End SOI project would be located

at a much closer proximity to classrooms than the Arroyo Seco Center construction activities, which are approximately 450 feet from the nearest classrooms. In addition, activities occurring during the more noise-sensitive nighttime hours may also result in increased levels of annoyance and potential sleep disruption to occupants of nearby residential dwellings. Construction-generated noise is therefore, considered a **potentially significant** short-term noise impact to nearby noise-sensitive land uses.

Mitigation Measure

MM 3.10-1a To reduce the effects of construction noise, the applicant shall require construction contractors to:

1. limit high noise-producing activities to the least noise-sensitive times of day and week (e.g., 7:00 am to 6:00 pm, Monday through Friday);
2. locate construction equipment and equipment staging areas at the furthest distance possible form nearby noise sensitive land uses;
3. properly maintain construction equipment, equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation; and
4. When not in use, motorized construction equipment shall not be left idling.

MM 3.10-1b During construction activities on APN 221-011-068, located west of Highway 101, the project applicant shall have construction contractors place temporary acoustic barriers (vinyl noise curtains or walls) along the northern boundary sufficient to shield nearby classrooms from noise-generating construction activities.

Implementation of the above mitigation measures limiting noise producing activities and requiring temporary acoustical sound barriers would reduce short-term construction noise impacts to nearby residential land uses and Greenfield High School to a **less than significant** level.

Long Term Increase in Stationary-Source Noise Associated with the Proposed Project

Impact 3.10-2 The proposed project would result in new stationary-source noise, particularly noise from commercial and industrial uses that could exceed applicable City noise standards at nearby noise-sensitive land uses. This is considered a **potentially significant** impact**.**

The proposed project includes a mixture of land uses, including single family residential, highway commercial, and heavy industrial uses. Residential units are proposed for development on the APN 221-011-068, located west of Highway 101. The commercial and industrial uses are proposed for the parcels (APN 221-011-017, 071) located east of Highway 101. The current LA Hearne agricultural storage facilities (APN 221-011-018) located on the east side of Highway 101 would also be designated as Highway Commercial. The sources and levels of stationary-source noise typically associated with these proposed land uses are discussed below:

Proposed Residential Units

Occupancy of proposed residential dwellings units would expose nearby land uses, including the existing Greenfield High School, Vista Verde Middle School and other proposed residential dwellings, to minor increases in ambient noise levels. Noise typically associated with residential development includes that from air conditioning equipment, voices, and amplified music. Increases in ambient noise levels would primarily occur during the day and evening hours and less frequently at night.

Noise levels generated by stationary sources, primarily residential central air conditioning units, averages approximately 60 dBA L_{eq} at three feet from the source. Assuming a maximum noise level of 60 dBA L_{eq}, predicted stationary source noise levels at the nearest classrooms located at the existing Greenfield High School and Vista Verde Middle School would not exceed the City's daytime exterior or interior noise standards of 55 and 40 dBA L_{eq}, respectively. However, depending on the distance between proposed residential dwellings, noise levels associated with air conditioning units located in side-yard areas could potentially exceed the City's exterior daytime and nighttime noise standards of 50 dBA and 45 dBA, respectively, at neighboring residences. As a result, increased noise levels associated with proposed residential land uses within the new subdivision would be considered **potentially significant**.

Highway Commercial and Heavy Industrial Uses

The proposed project includes plans for the development of commercial and industrial uses on parcels located east of Highway 101. The specific types of uses to be developed have not yet been identified, although the applicant has indicated the potential for a truck stop and Hotel/Motel uses in addition to traditional commercial center uses. Potential sources of noise associated with these types of land uses can vary substantially, depending on the activities conducted. In general, noise associated with commercial uses is typically limited to occasional parking-lot-related noise (e.g., opening and closing of vehicle doors, people talking). Truck stop noise can be expected to include idling diesel engines, air brakes and occasional truck horns. Industrial land uses, however, can generate substantial noise levels, including noise associated with the operation of large stationary sources, as well as

loading dock activities. For example, large vacuum pumps which are typically used for agricultural cooling and packaging operations can generate noise levels of approximately 90 dBA L_{eq} at 50 feet. Noise associated with loading dock activities, including idling trucks, vehicle backup alarms, decompression of trailer truck brakes, forklifts, and other material loading and unloading activities can generate levels of more than 60 dBA L_{eq} at 50 feet.

Surrounding land uses consist primarily of agricultural land and rural residential land uses. The nearest residential land uses are located just east of Highway 101 and include one residential dwelling located on the project site and one residential dwelling located approximately 330 feet south of the project site along Highway 101. The residence located on the proposed project site would be removed as part of the proposed project. Depending on the uses ultimately developed, predicted noise levels at these residences could potentially exceed the City's hourly-average noise standards for residential uses. Though stationary-source noise from proposed land uses at these receptors would likely be partially masked by traffic noise from Highway 101, substantial increases in ambient noise levels, particularly during the quieter nighttime hours could potentially occur. As a result, stationary-source noise levels associated with proposed commercial and industrial land uses would be considered **potentially significant**.

Stationary-source noise levels associated with the proposed land uses would result in noise levels that could exceed City noise standards at nearby residence. In addition, increases in single-event noise levels, such as backup alarms from material delivery trucks at commercial land uses or amplified public address systems associated with recreational facilities, could result in increased levels of disturbance and sleep disruption for occupants of nearby residential dwellings, particularly during the quieter nighttime hours. As a result, exposure to stationary source noise would be considered **potentially significant**.

Mitigation Measure

MM 3.10-2 Prior to approval of subsequent development applications, the project applicant shall have site specific acoustical analyses conducted to determine predicted noise impacts attributable specifically to the proposed project, taking into account site-specific conditions (e.g., site design, location of structures, specific use, building characteristics). The acoustical analysis shall evaluate stationary and mobile source noise attributable to the proposed uses, exposure of noise-sensitive land uses to existing noise sources, and quantify project-related impacts to nearby noise-sensitive land uses, in comparison to adopted City of Greenfield noise standards. Mitigation measures shall be identified to reduce project-related noise impacts at noise-sensitive receptors. Suggested mitigation measures include, but are not limited to, the following:

a. Use of increased noise-attenuation measures in building construction (e.g., dual-pane, sound-rated windows; mechanical air systems; exterior wall insulation, etc.);

b. Locating mechanical equipment (e.g., air conditioning and ventilation systems, pump stations, etc.) within rear-yard areas and/or provide shielding from nearby existing and proposed noise-sensitive land uses;

c. Limit noise-generating operational activities associated with the proposed commercial land uses, including truck deliveries and the loading and unloading of materials to daytime hours;

d. Include noise-reduction features (e.g., sound walls, truck-to-dock seals, increased setback distances/shielding) in the design of loading docks at commercial land uses;

e. Construction of sound walls between noise-generating land uses and neighboring residential development;

f. Limit landscape maintenance activities to the least noise-sensitive daytime hours (e.g., 7 a.m. to 7 p.m.); and

g. Limit the use of amplified sound systems or public address systems associated with commercial or industrial uses to the least noise-sensitive daytime hours (e.g., 7 a.m. to 7 p.m.).

Implementation of the above mitigation measures would reduce stationary source noise levels associated with proposed residential land uses. However, specific commercial and industrial land uses have not yet been identified. The effectiveness and feasibility of **MM 3.10-2** incorporated for commercial and industrial uses will be largely dependent on the uses ultimately proposed and site design. All uses, however, are required to meet city standards. As such, this programmatic analysis assumes that noise can be reduced to **less than significant** levels.

Increase in Traffic (Mobile) Noise Levels

Impact 3.10-3 Implementation of the proposed project would not contribute to a substantial increase in ambient noise levels. As a result, an increase in traffic noise from development of the proposed project is considered to be a **less than significant impact.**

The increase in daily traffic volumes resulting from implementation of the proposed project would generate increased noise levels along nearby roadway segments. The Environmental Noise Assessment completed by Ambient indicated that the FHWA roadway noise

prediction model was used to predict traffic noise levels along affected roadway segments. Predicted noise levels were calculated for both intermediate and buildout conditions, with and without implementation of the proposed project, based on traffic volumes obtained from the traffic analysis prepared for this project (Higgins Associates 2005). Predicted traffic noise levels for intermediate and buildout conditions are summarized in **Tables 3.10-6 and 3.10-7**, respectively.

TABLE 3.10-6
PREDICTED TRAFFIC NOISE LEVELS INTERMEDIATE CONDITIONS

Roadway Segment	Predicted Noise Level at 50 ft from Centerline of Near Travel Lane (dBA L_{dn}/CNEL)		
	Without Project	With Project	Increase
El Camino Real, North of Espinosa Road	60.75	62.46	1.71
El Camino Real, South of Espinosa Road	58.36	62.75	4.39
El Camino Real, SB SR-101 Off-Ramp to Susan Lane	57.30	59.87	2.57
US 101, Oak Avenue to Espinosa Road	76.88	77.73	0.85
US 101, South of Espinosa Road	76.82	77.37	0.55

Traffic noise levels were predicted using the FHWA roadway noise prediction model based on traffic information obtained from the traffic analysis prepared for this project. Modeled estimates assume no natural or man-made shielding (e.g., vegetation, berms, walls, buildings).

TABLE 3.10-7
PREDICTED TRAFFIC NOISE LEVELS GENERAL PLAN BUILDOUT CONDITIONS

Roadway Segment	Predicted Noise Level at 50 ft from Centerline of Near Travel Lane (dBA L_{dn}/CNEL)		
	Without Project	With Project	Increase
El Camino Real, North of Espinosa Road	61.82	64.20	2.38
El Camino Real, South of Espinosa Road	61.87	66.23	4.36
El Camino Real, SB SR-101 Off-Ramp to Susan Lane	61.00	63.81	2.81
US 101, Oak Avenue to Espinosa Road	77.74	79.22	1.48
US 101, South of Espinosa Road	77.99	79.09	1.10
3rd Street (Future Extension), North of Espinosa Road	63.02	64.25	1.23
3rd Street (Future Extension), South of Espinosa Road	64.04	67.69	3.65

Traffic noise levels were predicted using the FHWA roadway noise prediction model based on traffic information obtained from the traffic analysis prepared for this project. Modeled estimates assume no natural or man-made shielding (e.g., vegetation, berms, walls, buildings).

Based on the modeling conducted, development of the proposed project under intermediate traffic conditions would not result in a substantial increase in ambient noise levels. However, future buildout of the proposed project would result in a substantial increase in traffic noise levels along portions of El Camino Real and the future planned extension of 3rd Street, south of Espinosa Road. Land uses located adjacent to the future 3rd Street extension would be industrial; therefore, no noise-sensitive land uses are anticipated to be adversely affected associated with increased traffic along this roadway segment. No existing noise-sensitive land uses are located along the portion of El Camino Real, south of Espinosa Road. In addition, assuming a minimum setback distance of 200 feet to the nearest occupied room, predicted traffic noise levels at Greenfield High School would not exceed the City's exterior or interior noise standards of 60 and 40 dBA L_{dn}/L_{eq}, respectively. With buildout of the proposed project, predicted traffic noise would not contribute to a substantial increase in ambient noise levels at existing noise-sensitive land uses that would exceed the City's noise standards. As a result, increases in traffic noise attributable to the proposed project would be considered to have a **less than significant** impact.

Noise Levels at Proposed Noise Sensitive Land Uses

Impact 3.10-4 The proposed project would result in the development of noise-sensitive land uses (residential dwelling units) in an area where predicted noise levels would exceed City of Greenfield noise standards. This is considered a **potentially significant** impact**.**

Noise levels within the project area are influenced by traffic noise associated with vehicle traffic on area roadways, and industrial activities (i.e., NH_3 Service Company). Occasional agricultural activities on adjacent properties, as well as outdoor recreational activities at the nearby Greenfield High School also contribute to the ambient noise environment. Noise levels typically associated with these sources, and the compatibility of proposed land uses with noise generated by these sources are discussed separately below:

Transportation Noise Sources

In order for Ambient Air and Noise Consultants to determine land use compatibility, predicted traffic noise contours (in dBA L_{dn}/CNEL) for area roadways were modeled for future-plus-project conditions. Traffic noise contours were modeled using the FHWA Traffic Noise Prediction Model (FHWA 1988), based on data obtained from the Traffic Impact Study completed by Higgins Associates prepared for this project. **Table 3.10-9** summarizes predicted noise levels at 50 feet, as well as the distances to the 60, 65, and 70 dBA L_{dn}/CNEL contours for adjacent roadways. The predicted noise contour distances do not take into account shielding or reflection of noise from existing terrain or existing/future structures. Actual noise levels would vary from day to day, depending on factors such as local traffic volumes, shielding from existing structures, variations in attenuation rates resulting from changes in surface parameters, and meteorological conditions.

TABLE 3.10-8
PREDICTED TRAFFIC NOISE CONTOUR DISTANCES
BUILDOUT WITH PROJECT CONDITIONS

Roadway Segment	L_{dn}/CNEL 50 ft from Centerline of Near Travel Lane	Distance from Roadway Centerline (feet) to Predicted Noise Contours (L_{dn}/CNEL)		
		60 dBA	65 dBA	70 dBA
US 101, Oak Avenue to Espinosa Road	79.22	1,252	582	271
US 101, South of Espinosa Road	79.09	1,227	570	265
3rd Street (Future Extension), North of Espinosa Road	64.25	107	NA	NA
3rd Street (Future Extension), South of Espinosa Road	67.69	181	84	NA
El Camino Real, South of Espinosa Road	66.23	145	68	NA
El Camino Real, SB US 101 Off-Ramp to Susan Lane	63.81	100	NA	NA

Traffic noise levels were predicted using the FHWA roadway noise prediction model based on traffic information obtained from the traffic analysis prepared for this project. Modeled estimates assume no natural or man-made shielding (e.g., vegetation, berms, walls, buildings). Refer to Appendix E for modeling input assumptions and output results.
NA = Within Roadway Right-of-way

The City's minimum acceptable exterior noise standard for residential land uses is 60 dBA L_{dn}/CNEL. The City's exterior noise standards for commercial and industrial land uses are 65 and 75 dBA L_{dn}/CNEL, respectively.

As shown in **Table 3.10-8**, freeway traffic from Highway 101 is the predominant transportation noise source in the vicinity of the proposed project. Based on the modeling conducted, the 60 dBA L_{dn}/CNEL contours of Highway 101 (unmitigated) would range from approximately 1,227 feet from the roadway centerline for areas located south of Espinosa Road to approximately 1,252 feet from the roadway centerline for areas located north of Espinosa Road. Residential land uses proposed for development on the parcel located west of Highway 101 would be located within the 60 dBA L_{dn}/CNEL contours of Highway 101, which would extend approximately 880 feet onto the project site. The projected 60 dBA L_{dn}/CNEL contour of El Camino Real would also extend onto this same parcel to a distance approximately 145 feet from the roadway centerline. Residential land uses located inside these projected future noise contours could be exposed to noise levels that exceed the City's exterior noise level standard of 60 dBA L_{dn}/CNEL for new residential development.

The project area proposed for commercial and industrial land uses, which are located east of Highway 101, would also be located within the projected 65 and 70 dBA L_{dn}/CNEL contours of Highway 101. Based on the modeling conducted the projected 70 dBA L_{dn}/CNEL contour of Highway 101 would extend onto the project site to a maximum

distance of approximately 271 feet from the roadway centerline. The 65 dBA L_{dn}/CNEL contour would extend to a maximum distance of approximately 582 feet from the roadway centerline.

Based on the modeling conducted, proposed industrial land uses would not be located within areas projected to exceed the City's noise standard of 75 dBA L_{dn}/CNEL. However, areas proposed for commercial land uses that are located nearest Highway 101 could potentially exceed the City's land use compatibility noise standard of 70 dBA L_{dn}/CNEL. In addition, any commercial land uses that may include exterior spaces for employee or customer relaxation may exceed the City's noise standard of 65 dBA L_{dn}/CNEL for noise-sensitive areas. Commercial land uses may therefore, be located in areas that would exceed the City's noise standards.

Non Transportation Noise Sources

The areas adjacent to the proposed residential uses, located west of Highway 101, include non-transportation noise sources associated with the NH_3 Service Company and Greenfield High School. Noise generated by these uses and potential impacts to the proposed project land uses are identified below.

NH_3 Service Company

The NH_3 Service Company operates a fertilizer dispensing facility, which is located along El Camino Real, east of the proposed residential development. Hours of operation are typically limited to the daytime hours. Based on the noise measurements conducted as part of Environmental Noise Assessment, noise generated by the fertilizer dispensing plant resulted in noise levels of approximately 71 dBA L_{eq} at the eastern boundary of the project site proposed for residential development. Noise generated by this source was not detectable at the project site parcels located east of Highway 101. Average hourly noise levels at residential dwellings planned for construction within the eastern portion of the APN 221-011-068 located west of Highway 101 would exceed the City's daytime noise standard of 50 dBA L_{eq}.

Greenfield High School

Noise typically associated with schools includes the voices of adults and children, group recreation, and the opening and closing of vehicle doors in parking lots. During periods when children, students, and community members are using exterior recreational areas, exterior noise levels can exceed 60 dBA L_{eq} at 50 feet. Noise sources commonly associated with these types of events include elevated voices from crowds and exterior public address systems. Recreational events are typically limited to the daytime hours, but may, on occasion, extend past 10:00 p.m. Recreational facilities at the High School include a

football stadium, track, and various ball fields located adjacent to the northern boundary of the parcel.

Assuming a maximum noise level of 60 dBA L_{eq} at 50 feet, residential land uses located within approximately 160 feet of these uses could be exposed to noise levels in excess of the City's daytime noise standard of 50 dBA L_{eq}. Assuming that recreational activities, such as football games, could extend past 10:00 p.m., predicted noise levels at planned residential dwellings located within approximately 300 feet could also exceed the City's nighttime noise standard of 45 dBA $L_{eq.}$ Proposed residential land uses may therefore, be located in areas that would exceed the City's noise standards for non-transportation noise sources.

Agricultural Activities

Agricultural activities on parcels located adjacent to the project area include the use of various types of heavy equipment. Operation of heavy agricultural equipment typically generates noise levels of up to approximately 75 dBA L_{eq} at 50 feet (EPA 1971). However, agricultural activities (e.g., disking, plowing) are typically sporadic or seasonal and occur over a large area, which results in varying levels of exposure at nearby receptors. Given that activities are typically limited to daytime hours and the mobile nature of agricultural activities, nearby planned residential dwellings are not anticipated to be exposed to noise levels for extended periods of time. As a result, agricultural activities are not anticipated to generate noise levels that would exceed the City's noise standards for residential land uses.

Mitigation Measure

MM 3.10-4 The project applicant for the residential portion of the project site shall include noise barriers to shield the planned residential dwelling units proposed for construction west of Highway 101. The barriers would act to shield proposed uses from transportation and non-transportation noise sources, barriers would likely be required along eastern boundary of the parcel, parallel to El Camino Real, and along the property line adjoining Greenfield High School. In general, a noise barrier constructed of sufficient density (approximately 20 kilograms/square meter minimum) can achieve a five dBA noise level reduction when it is tall enough to break the line-of-sight from the noise source to the receiver. Barriers can achieve an approximate 1.5 dBA additional noise-level reduction for each meter of increased height. Openings in noise walls for connections to adjoining land uses or roadways substantially reduce the effectiveness of barriers. Noise barriers provide no attenuation for receptors that rise above the barrier, such as multi-story residential buildings. The specific noise-reduction features should be implemented in the final site design for the residential portion of the project.

Implementation of the above mitigation measure along with **MM 3.10-2** would be effective in reducing interior noise levels of new residential development to **less than significant** levels. In addition site planning opportunities exist at the proposed residential development, to set back the location of the residential uses from Highway 101 by possibly placing the storm water detention basin for the parcel between the Highway and residential uses. As a result, this impact would be considered **less than significant**.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Traffic Noise

Impact 3.10-5 The project will contribute to cumulative traffic on the roadway network, which will not substantially increase noise level over cumulative non-project noise levels. The increase in noise level ranges from 1.1 to 3.65 dB Ldn, as, indicated by **Table 3.10-7**. This is a **less than significant** impact.

As identified in **Impact 3.10-3,** future buildout of the proposed would result in a substantial increase in traffic noise levels along portions of El Camino Real and the future planned extension of 3rd Street, south of Espinosa Road. Land uses located adjacent to the future 3rd Street extension would be industrial; therefore, no noise-sensitive land uses are anticipated to be adversely affected associated with increased traffic along this roadway segment. No existing noise-sensitive land uses are located along the portion of El Camino Real, south of Espinosa Road. In addition, assuming a minimum setback distance of 200 feet to the nearest occupied room, predicted traffic noise levels at Greenfield High School would not exceed the City's exterior or interior noise standards of 60 and 40 dBA L_{dn}/L_{eq}, respectively. With buildout of the proposed project, predicted traffic noise would not contribute to a substantial increase (less than five dBA) in ambient noise levels at existing noise-sensitive land uses that would exceed the City's noise standards. Therefore the increase in noise level is considered to be **a less than significant** cumulative impact.

References/Documentation

City of Greenfield. *Greenfield General Plan*. 2005.

Ambient Air Quality and Noise Consulting. *Environmental Noise Assessment: South End Annexation Project Draft EIR*. December 2005.

California Department of Transportation. *California Airport Land Use Planning Handbook*. January 2002.

City of Greenfield. *City of Greenfield General Plan, Noise Element*. 2005.

M. David Egan, McGraw Hill. *Concepts in Architectural Acoustics*. 1972.

U.S. Department of Housing and Urban Development, Office of Community Planning and Development. *The Noise Guidebook*. 1980.

Higgins Associates. *Franscioni/Scheid Development Traffic Impact Study*. September 28, 2005.

United States Environmental Protection Agency (US EPA). *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. 1971.

Federal Transit Administration. *Transit Noise and Vibration Impact Assessment*. April 1995.

Andrus, Dan. Vice Principal. Greenfield High School. Personal Communication with William Heppler. February 22, 2006.

This Page Intentionally Left Blank

Section 3.11
Traffic and Circulation

This section of the EIR analyzes the traffic generation and circulation issues associated with the proposed project, based on the traffic impact study prepared by Higgins Associates Civil and Traffic Engineers. The analysis is based on issues identified through the Notice of Preparation (NOP) and scoping process and has been prepared in coordination with City staff. The complete Traffic Study is included in the Technical Appendices of this document.

3.11.1 EXISTING SETTING

Existing Setting describes the existing street network relevant to the proposed project and the existing operational traffic conditions.

EXISTING ROADWAY SYSTEM

El Camino Real is a primary access route in the City, running in the north-south direction, and provides access to Highway 101 to the north and south of the City, Greenfield Elementary School, and Greenfield High School. It is currently a two-lane arterial with left and right turn channelization throughout the City. It is planned to be a four-lane facility to the north of Walnut Avenue and south of Elm Avenue under General Plan build out conditions. In the downtown area it would be a two-lane facility with on street parking and low operational speeds. South of the overpass it is a two-lane road to Susan Street and then continues to the Highway 101 On-Ramp as a single lane.

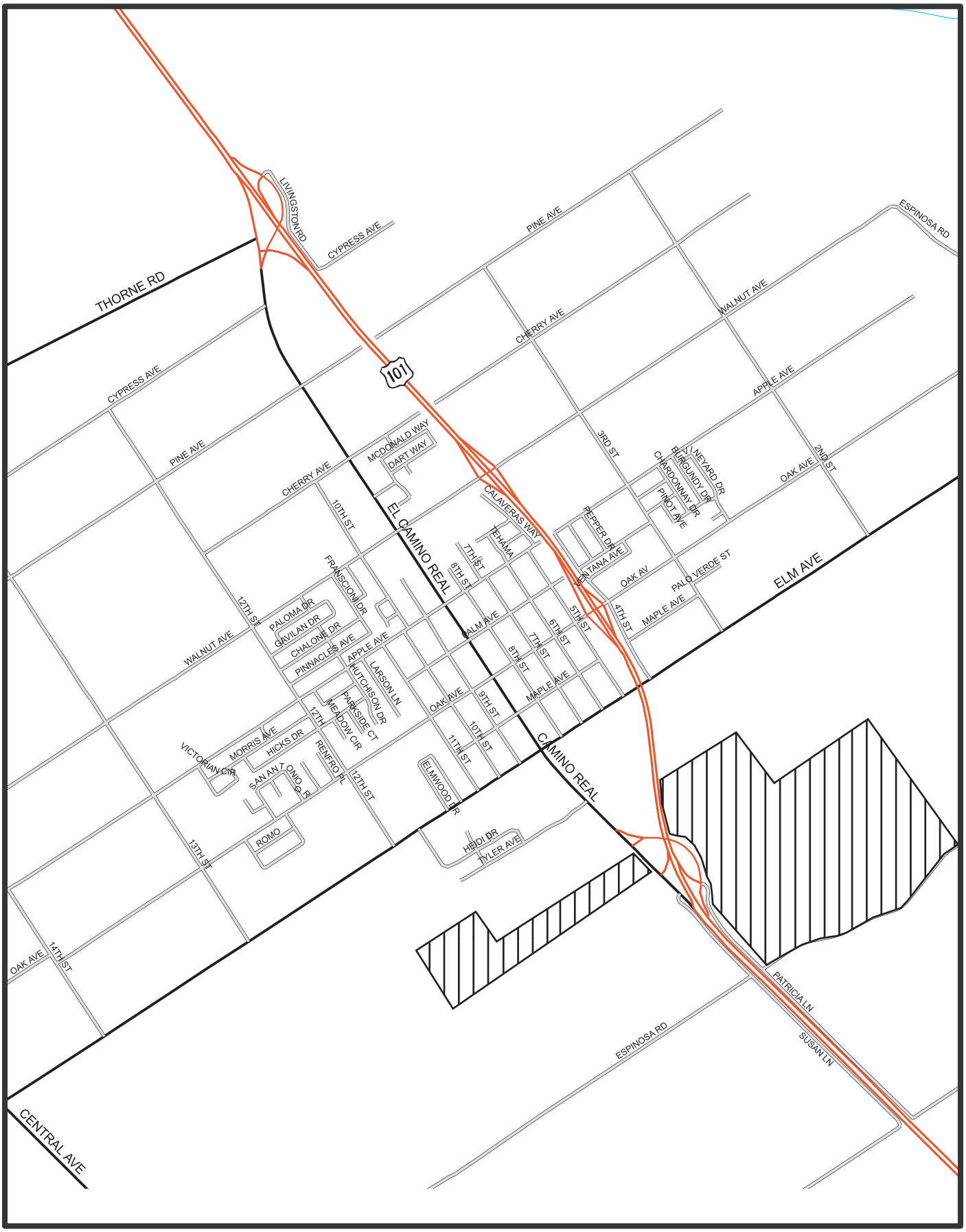
Elm Avenue has an east-west alignment traversing the southerly portion of the City. Elm Avenue provides for one lane of travel in each direction. To the west of town, Elm Avenue becomes Arroyo Seco Road. To the east it links Metz Road.

Collector streets, which include **Apple Avenue**, **Oak Avenue**, **Tyler Avenue** and **Third Street** provide access between residential areas and arterial streets. Most of the collector streets are 40 to 44 feet wide and have one lane in each direction, except Apple Avenue where portions of the road are only 30 feet wide. Oak Avenue also provides access to Highway 101.

Walnut Avenue is currently a two-lane collector road running in an east-west direction through the City. This road provides access to Highway 101, Greenfield Elementary School, and Santa Lucia Square. Walnut is also the heavy vehicle route through to Highway 101 on the east side of town.

The existing roadway network is shown in **Figure 3.11-1**.

This Page Intentionally Left Blank



0.25 0 0.25 Miles

N

FIGURE 3.11-1
ROADWAY NETWORK

PMC

T:\City of Greenfield\Graphic Development\Figures\Figure 3.11-1.ai, January 2006

This Page Intentionally Left Blank

EXISTING TRANSIT NETWORK

Auto Lift

The City currently has a transit system called Auto Lift which operates from 9:30 AM to 4:30 PM Monday through Friday. Riders are required to call within 20 minutes prior to their pick-up time. Auto Lift is a demand responsive transit service provided by the city public works department. It is demand based with no fixed route or scheduled stops. The service area is restricted to two miles outside of the city limits.

Monterey-Salinas Transit

Monterey-Salinas Transit (MST) Routes 23 and 53 currently travels through the City of Greenfield. Route 23 is a bus line that runs between 5:40 AM to 9:50 PM. Route 23 starts at the Northridge Mall in Salinas and loops around at King City. It includes stops in Chualar, Gonzales, Soledad, and Greenfield. Route 53 is an express bus line that runs twice a day, during the AM and PM peak hours only. In the morning, Route 53 begins at the Mee Memorial Hospital in King City at 5:45 AM and ends at The Lodge in Pebble Beach at approximately 7:45 AM. In the evening, Route 53 begins at The Lodge in Pebble Beach at 4:35 PM and ends at Mee Memorial Hospital in King City at approximately 6:55 PM. It includes stops in Pacific Grove, Monterey, Del Rey Oaks, Chualar, Gonzales, Soledad, and Greenfield.

Bicycle Facilities

The City of Greenfield has included a Bike Plan in the General Plan. The City adopted the Caltrans description for bicycle facilities within the City. Types of bikeways are described by Caltrans in the *Highway Design Manual* as follows:

- *Class I Bikeway* - Referred to as a "bike path" or "multi-use trail". Provides for bicycle travel on a paved ROW completely separated from any street or highway.

- *Class II Bikeway* - Referred to as a "bike lane". Provides striped lane for one-way travel on a street or highway.

- *Class III Bikeway* – Referred to as a "bike route". Provides for shared use with pedestrians or motor vehicle traffic and is identified only by signing.

Within the project vicinity, El Camino Real is a Class III bike facility from Tyler Street to Elm Street and a Class II bike facility from Tyler Street south to the High School entrance. The City of Greenfield has a high level of non-motorized (pedestrian and bicycle) transport.

EXISTING TRAFFIC DATA

The 2005 General Plan, the most current comprehensive study of city-wide traffic conditions, analyzes only PM peak hour traffic analysis. On a daily basis, however, many residents commute north and south from Greenfield on Highway 101. Thus trips leave the area in the morning and return to the City in the afternoon, resulting in different travel patterns between the morning and afternoon peak periods.

To account for these differences and to provide a more detailed assessment specific to the South End SOI project, the traffic Study prepared an AM and PM analysis to accurately incorporate characteristics of both peak hours. As such, AM and PM peak period manual traffic counts were conducted at the project intersections over the last few months for other projects in the City. Where no data was available, counts were conducted by Higgins and Associates between August 10th –16th, 2005. These volumes were balanced to represent more accurate turning movements and the AM peak hour volumes were adjusted to include school traffic.

Existing traffic conditions are presented below. Since traffic conditions are typically expressed in terms of "Levels of Service", or LOS, this tool for describing traffic is also explained.

Existing Level of Service Conditions

Level of Service (LOS) ratings are qualitative descriptions of intersection operations and are reported using an "A" through "F" letter rating system to describe travel delay and congestion. The varying levels of service are described below in **Tables 3.11-1 and 3.11-2.** The LOS methodology is described in detail in the Traffic Study included in the Technical Appendices of this document.

TABLE 3.11-1
LEVEL OF SERVICE DESCRIPTION

LOS	Description
A	Represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.
B	Stable flow, but the presence of other users in the traffic stream begins to be noticeable.
C	Stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.
D	Represents high density, but stable flow.
E	Represents operating conditions at or near the capacity level.
F	Represents forced or breakdown flow.

Source: Highway Capacity Manual, Special Report 209, Transportation Research Board, 1985.

TABLE 3.11-2
LEVEL OF SERVICE CRITERIA

Signalized Intersections		Unsignalized Intersections	
Level of Service	**Control Delay (seconds/vehicle)**	**Level of Service**	**Control Delay (seconds/vehicle)**
A	Less than 10	A	0 – 10
B	› 10 – 20	B	› 10 – 15
C	› 20 – 35	C	› 15 – 25
D	› 35 – 55	D	› 25 – 35
E	› 55 – 80	E	› 35 – 50
F	› 80	F	› 50

Study Intersection Operations

The following intersections, represented in **Table 3.11-3**, were selected for analysis in consultation with City of Greenfield staff.

TABLE 3.11-3
INTERSECTIONS ANALYZED UNDER EXISTING CONDITIONS

STATE FACILITIES (CALTRANS)
1. Hwy 101 NB Off Ramp – Espinosa Overpass and Hwy 101 NB On Ramp – Patricia Lane
2. El Camino Real (south) and Hwy 101 SB Off-Ramp
3. El Camino Real – Hwy 101 SB On Ramp and Susan Lane
4. Hwy 101 SB Ramps and Oak Avenue
5. Hwy 101 NB Ramps and Oak Avenue
6. Hwy 101 SB Ramps and Walnut Avenue
7. Hwy 101 NB Ramps and Walnut Avenue
CITY STREETS (GREENFIELD)
8. El Camino Real and Tyler Avenue
9. El Camino Real and Elm Avenue
10. El Camino Real and Oak Avenue
11. El Camino Real and Apple Avenue
12. El Camino Real and Walnut Avenue
13. 3rd Street and Elm Avenue
14. Patricia Lane and Espinosa Road

Table 3.11-4 provides a detailed description of the average delays and LOS for study intersections during the AM and PM peak hours under the Existing Conditions. All the

intersections operate at LOS A or B. The Traffic Impact Study contains the level of service calculation sheets for the existing operational LOS analysis at the study intersections within the technical appendices of this EIR.

Table 3.11-4 represents the "master" intersection analysis table, presenting the results of all analysis scenarios. The reader is advised to refer back to this table for all scenarios.

TABLE 3.11-4
INTERSECTION LEVEL OF SERVICE SUMMARY

	N-S Street	E-W Street	Existing Lane Configuration	Existing Intersection Control	Short Term Project Lane Configuration	Short Term Project Intersection Control	GPBO Lane Configuration	GPBO Intersection Control	Existing LOS Standard	Existing Conditions				Short-Term Project Conditions				General Plan Conditions			
										AM Peak Hr		PM Peak Hr		AM Peak Hr		PM Peak Hr		AM Peak Hr		PM Peak Hr	
										Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1 (21)	Patricia Lane	Espinosa Road	NB 1-T/R SB 1-L/T WB 1-L/R	1-Way Stop WB Worst Approach	Same as Existing		NB 1-T, 1-T/R SB 1-L, 2-T WB 2-L, 1-R	Signal	C (E)	3.5 8.5	A A	3.9 8.3	A A	15.3	C	18.2	C	70.0 *6.0*	F *A*	107.6 *12.6*	F *B*
2	Espinosa Overpass Hwy 101 NB Off-Ramp	Patricia Lane/Hwy 101 NB On Ramp	NB 1-L/T/R SB 1-L, 1-R WB 1-T/R	2-Way-Stop SB/WB Worst Approach	NB 1-L/T/R SB 1-L, 1-R WB 1-T, 1-R	Signal	Interchange removed under this scenario		C (E) *Mitigated*	9.5 10.5	A B	9.6 12.4	A B	28.1 65.0 *17.1*	D F *B*	* * *30.9*	F F *C*	*See Intersection #2A*			
2A (20)	(Future) Hwy 101 NB Ramps	Espinosa Road	Intersection does not exist under this scenario		Intersection does not exist under this scenario		NB 1-L, 1-L/T, 1-T/R, 1-R EB 1-L, 2-T WB 2-T, 2-R	Signal	C									*21.0*	*C*	*19.1*	*B*
3	El Camino Real/ Hwy 101 SB On-Ramp	Susan Lane	SB 1-T/R EB 1-L/R	1-Way Stop EB Worst Approach	Same as Existing		Interchange removed under this scenario		C (E) *Mitigated*	2.6 9.9	A A	1.2 9.3	A A	1.5 13.4	A B	0.5 12.4	A B	*See Note 7*			
4	El Camino Real	Hwy 101 SB Off Ramp	NB 1-T SB 1-T WB 1-L/R	1-Way Stop WB Worst Approach	Same as Existing		Interchange removed under this scenario		C (E) *Mitigated*	2.0 8.9	A A	2.7 8.7	A A	2.7 9.6	A A	5.4 11.7	A B	*See Intersection #4A*			
4A (19)	(Future) Hwy 101 SB Ramps	Espinosa Road	Intersection does not exist under this scenario		Intersection does not exist under this scenario		SB 1-L, 1-L/T, 1-R EB 1-T, 1-R WB 2-T, 1-R	Signal	C									*14.6*	*B*	*15.5*	*B*
5	El Camino Real	Espinosa Overpass High School Dwy	NB 1-L, 1-T/R SB 1-L, 1-T, 1-T/R EB 1-L, 1-T/R WB 1-L/T, 1-R	2-Way Stop EW Worst Approach	NB 1-L, 1-T, 1-R SB 1-L, 1-T, 1-T/R EB 1-L, 1-T/R WB 1-L/T, 1-R	Signal	NB 1-L, 1-T, 1-R SB 1-L, 2-T, 1-R EB 1-L/T, 1-R WB 1-L/T, 1-R	Signal	C (E) *Mitigated*	8.7 19.6	A C	4.6 13.7	A B	60.5 241.3 *11.0*	F F *B*	174.3 * *15.6*	F F *B*	* * *21.6*	F F *C*	* * *8.3*	F F *A*
6	El Camino Real	Tyler Avenue	NB 1-L, 1-T/R SB 1-L, 1-T/R EB 1-L/R	1-Way Stop EB Worst Approach	Same as Existing		NB 1-L, 1-T/R SB 1-L, 1-T/R EB 1-L/R WB 1-L/T/R	Signal	C (E) *Mitigated*	3.0 13.9	A B	2.9 14.7	A B	6.8 36.2	A E	6.1 46.9	A E	19.7 128.1 *10.4*	C F *B*	21.4 243.8 *8.0*	C F *A*
7	El Camino Real	Elm Avenue	NB 1-L/T, 1-R SB 1-L/T/R EB 1-L/T/R WB 1-L/T/R	4-Way Stop	Same as Existing		NB 1-L, 1-T, 1-R SB 1-L/, 1-T/R EB 1-L/, 1-T/R WB 1-L/, 1-T/R	Signal	D *Mitigated*	9.8	A	10.0	A	15.3	C	18.2	C	70.0 *17.8*	F *B*	107.6 *19.1*	F *B*
8	El Camino Real	Oak Avenue	NB 1-L/T/R SB 1-L/T/R EB 1-L/T/R WB 1-L/T/R	4-Way Stop	Same as Existing		NB 1-L, 1-T/R SB 1-L, 1-T/R EB 1-L/T/R WB 1-L/T/R	Signal	D *Mitigated*	9.6	A	11.8	B	12.3	B	24.2	C	54.1 *17.2*	F *B*	238.8 *22.1*	F *C*
9	El Camino Real	Apple Avenue	NB 1-L/T/R SB 1-L, 1-T/R EB 1-L/T/R WB 1-L/T/R	4-Way Stop	Same as Existing		NB 1-L, 1-T/R SB 1-L, 1-T/R EB 1-L/T/R WB 1-L/T/R	Signal	D *Mitigated*	8.3	A	13.1	B	8.6	A	15.2	C	11.1 *19.2*	B *B*	88.9 *23.7*	F *C*
10	El Camino Real	Walnut Avenue	NB 1-L, 1-T/R SB 1-L, 1-T/R EB 1-L/T/R WB 1-L, 1-T/R	4-Way Stop	Same as Existing		NB 1-L, 1-T, 1-R SB 2-L, 1-T, 1-R EB 1-L, 1-T/R WB 1-L, 1-T, 1-R	Signal	D *Mitigated*	8.9	A	12.0	B	9.4	A	13.6	B	158.9 *27.2*	F *C*	* *34.8*	F *C*
11	Hwy 101 SB Ramps	Walnut Avenue	SB 1-L/T, 1-R EB 1-T, 1-R WB 1-L/T	1-Way Stop SB Worst Approach	Same as Existing		SB 2-L, 1-L/T, 1-R EB 2-T, 1-R WB 2-L, 1-T	Signal	C (E) *Mitigated*	2.2 10.3	A B	3.7 10.3	A B	3.5 11.9	A B	5.6 13.5	A B	* * *15.1*	F F *B*	* * *26.6*	F F *C*
12	Hwy 101 NB Ramps	Walnut Avenue	NB 1-L/T, 1-R EB 1-L/T WB 1-T/R	1-Way Stop NB Worst Approach	Same as Existing		NB 1-L/T, 1-R EB 2-L, 3-T WB 3-T, 2-R	Signal	C (E) *Mitigated*	6.8 13.8	A B	5.1 13.4	A B	5.7 19.8	A C	5.7 25.9	A D	* * *28.2*	F F *C*	* * *29.3*	F F *C*
13	Hwy 101 SB Ramps	Oak Avenue	SB 1-L/T, 1-R EB 1-T/R WB 1-L/T	1-Way Stop SB Worst Approach	Same as Existing		SB 1-L/T, 1-R EB 1-T/R WB 2-L, 1-T	Signal	C (E) *Mitigated*	2.7 10.8	A B	4.9 12.7	A B	3.4 12.4	A B	6.6 16.4	A C	15.6 54.1 *20.6*	C F *C*	21.8 57.6 *34.3*	C F *C*
14	Hwy 101 NB Ramps	Oak Avenue	NB 1-L, 1-T/R EB 2-I, 1-T WB 1-T/R	1-Way Stop NB Worst Approach	Same as Existing		NB 1-L/T, 1-R EB 1-L/T WB 1-T/R	Signal	C (E) *Mitigated*	3.8 12.5	A B	3.1 13.6	A B	5.1 16.2	A C	4.4 17.6	A C	12.3 69.1 *19.9*	B F *B*	49.3 196.4 *24.0*	E F *C*
15	3rd Street	Elm Avenue	SB 1-L/R EB -L/T WB 1-T/R	2-Way Stop NS Worst Approach	Same as Existing		NB 1-L, 1-T/R SB 1-L, 1-T/R EB 1-L, 1-T/R WB 1-L, 1-T/R	Signal	D (E) *Mitigated*	2.1 8.7	A A	2.6 8.8	A A	6.7 11.0	A B	6.5 11.4	A B	19.5 31.1 *14,9*	C D *B*	* * *16.4*	F F B
16	Elm Circle/ New Road	Elm Avenue	SB 1-L/R EB 1-L/T WB 1-T/R	1-Way Stop SB Worst Approach	Same as Existing		SB 1-L/R EB 1-L/T WB 1-T/R	1-Way Stop SB Worst Approach	C (E)	N/A		N/A		N/A		N/A		*0.6* *12.1*	*A* *B*	*1.1* *16.8*	*A* *C*
18	El Camino Real	Espinosa Road	Intersection does not exist under this scenario		Intersection does not exist under this scenario		SB 1-L, 1-L/T/R EB 1-L/T/R WB 1-T, 2-R	Signal	C (E)	N/A		N/A		N/A		N/A		*1.2*	*A*	*5.2*	*A*

Notes:

1. L, T, R = Left, Through, Right
2. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound
3. Level of Service (LOS) and control delay are shown for both overall intersection and worst approach when intersection is controlled by one/two way stop control
4. Level of Service (LOS) and control delay is for overall average of all approaches when intersection control is by all-way stop or traffic signals
5. * = Delay exceeds 300 seconds (5 minutes)
6. NA = Intersection not studied under this scenario
7. New southern interchange to be constructed under full project buildout as GPBO project mitigation. Southern ramps at Patricia and El Camino Real to be relocated to Espinosa Road. El Camino Real/Susan Lane intersection to be removed

This Page Intentionally Left Blank

Existing Roadway Segment Operation

Roadway segment analysis included El Camino Real between Susan Road/Highway 101 Southbound On-Ramp and Walnut Avenue, as well as the major side streets on El Camino Real. Highway 101 segments were also evaluated with and without the project for planning purposes. All roadway segments studied currently operate at acceptable levels of service. Acceptable LOS is C or better, except for El Camino Real thorough downtown, where acceptable LOS is D.

3.11.2 REGULATORY SETTING

CITY OF GREENFIELD CODES AND ORDINANCES

Construction, maintenance and use of the City roadway system is enabled and regulated by the City of Greenfield Municipal Code and General Plan.

CITY OF GREENFIELD GENERAL PLAN CIRCULATION ELEMENT

Upon annexation of the proposed project the project site will be located in the established city limits of the City of Greenfield and subject to the goal and policies of the Greenfield General Plan. The following Goals and Policies of the General Plan Circulation Element are relevant in guiding consideration of this project:

Goal 3.1: Provide a safe, efficient, and balanced transportation system that accommodates the circulation of vehicles, bicycles, and pedestrians.

Policy 3.1.2: Develop and maintain convenient linkages for both vehicular and non-vehicular transportation modes between Greenfield and the surrounding region.

Goal 3.2: Ensure that future road development and maintenance of existing roads provides safe pedestrian and vehicle access and movement along City streets.

Policy 3.2.1: Ensure that the City's roadway facilities are maintained with a focus on aesthetics and functionality.

Policy 3.2.2: New development shall include construction or in-lieu fees of new roadways or roadway improvements prior to or concurrent with new development and as deemed appropriate by the City.

Policy 3.2.3: Strive to maintain Level of Service C as the minimum acceptable service standard for intersections and roadways during peak periods and accept an LOS D only when unavoidable and at identified locations.

Policy 3.6.3: Coordinate with Monterey County in planning and design of roadway facilities that link Greenfield with the region.

Goal 3.7: Coordinate land use and transportation planning with other public and private agencies to ensure the most efficient and usable circulation program possible.

Policy 3.7.3: Ensure that the density and pattern of future land uses (both public and private) encourage transit usage, walking, and bicycling.

Policy 3.7.4: New development shall provide sufficient parking, while considering the effect of parking supply on the use of alternate modes of transportation.

Policy 3.7.5: Minimize potential circulation conflicts between new and existing roadways.

MONTEREY COUNTY PUBLIC WORKS DEPARTMENT

The intersection operation LOS standard utilized by Monterey County is "C". Based on the County's *Criteria for Significant Impacts at Intersections* (County Public Works Department report first adopted in 1980 and revised in 1996), a significant impact will occur if an intersection operating at LOS "A", "B" or "C" degrades to "D", "E" or "F." For intersections already operating at unacceptable levels of "D" and "E", a significant impact will occur if a project adds 0.010 or more to the critical movements volume to capacity ratio. If the intersections are already operating at LOS "F", any increase (one vehicle) in critical movements is considered significant.

If the project is approved, the roadway network will be subject to City of Greenfield standards. County standards are listed for the purpose of assessing consistency with the adjacent jurisdiction.

TRANSPORTATION AGENCY FOR MONTEREY COUNTY

Regional Transportation Plan

As the Regional Transportation Planning Agency, the Transportation Agency for Monterey County (TAMC) is responsible for developing a plan that reflects the needs, concerns, and actions of all the agencies involved in the region and of the public. In consultation with its Technical and Citizens Advisory Committees, TAMC staff prepares and updates the Regional Transportation Plan (RTP). The latest Monterey County Regional Transportation Plan (RTP) was adopted in May of 2005. The purpose of the RTP is to provide policy guidance, plans, and programs for the next twenty years to attain a balanced, comprehensive, multimodal transportation system. The RTP proposes solutions, considers

all modes of travel, and identifies anticipated funding for projects and programs. The RTP addresses special factors affecting the transportation system, such as air quality, land use, special transportation needs and multimodal integration.

Monterey County Congestion Management Program

The primary objective of the Congestion Management Program (CMP) is to reduce traffic congestion and improve mobility for persons and freight. The policies and objectives of the CMP are intended to insure that traffic circulation improves, or is at least maintained, as population increases in Monterey County. The CMP encourages each city and the County to address the regional transportation issues related to land use decisions with the goal to mitigate the traffic impacts associated with proposed development. For the CMP to be a success, the cities and the County must work together to find cooperative solutions to multi-jurisdictional transportation problems. In addition, the CMP must be consistent with the Regional Transportation Plan and its goals.

3.11.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines and accepted City of Greenfield standards. For the purposes of this EIR, impacts are considered significant if the following could result from implementation of the proposed project:

1. Increase traffic and degrade the level of service of roadways or intersections below LOS "C", except in specific locations of higher urban density, where the standard shall be "D";
2. Exacerbate existing traffic conditions that are currently experiencing an unacceptable LOS;
3. Cause the need for traffic control changes (all-way-stop) or a signal at an unsignalized location;
4. Result in insufficient parking capacity onsite or offsite as calculated by City standards;
5. Result in roadway design inconsistent with engineering or safety standards or cause unsafe conditions for pedestrians or bicyclists;
6. Adversely impact existing transit systems;
7. Cause the need for previously unforeseen improvements and therefore require an update to the City's traffic impact fee program; or
8. Result in a disruption of the operations of existing uses, such as schools.

PROJECT DEVELOPMENT AND TRAFFIC ANALYSIS ASSUMPTIONS

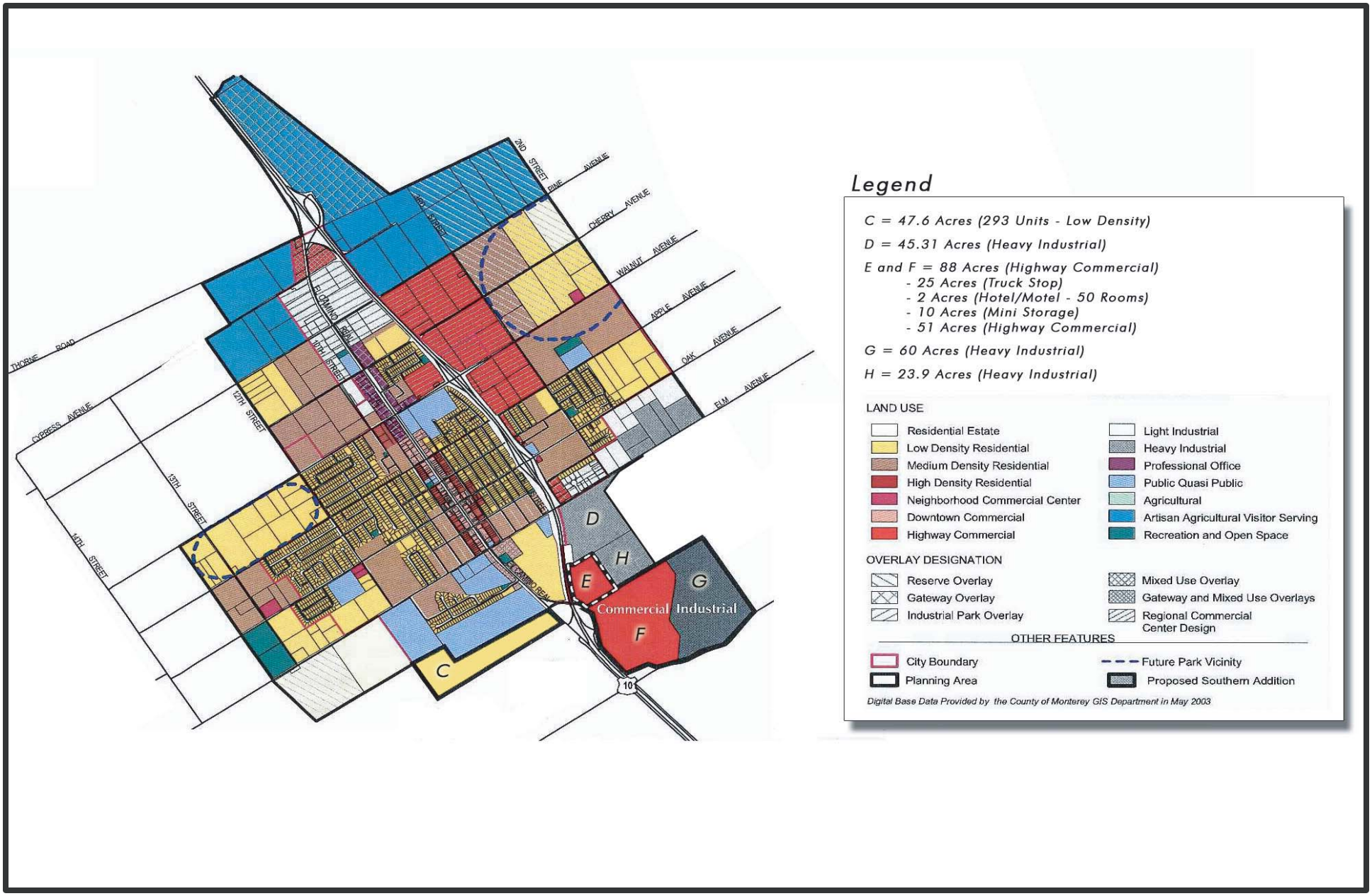
Project Overview

The project applicant is proposing to expand the City of Greenfield's Sphere of Influence (SOI) to the south. The South End SOI project would include the addition of residential, commercial and industrial land into the SOI, as well as a change in existing land use from Heavy Industrial to Highway Commercial. The project would include the addition of Low Density residential on the west side of Highway 101, and Highway Commercial and Heavy Industrial uses on the east side of the highway. Primary access would be from Highway 101, El Camino Real and the proposed southward extension of 3rd Street.

The proposed amendment to the SOI will result in the following land use additions and changes to the City of Greenfield if the project is approved. Higgins Associated identified the land areas as a series of "blocks", as described below and illustrated in **Figure 3.11-2**.

- Block C (47.6 acres) - Low Density Residential added to SOI.
- Block D (45.31 acres) – Heavy Industrial in existing General Plan remains unchanged.
- Block E and F (88 acres) – Highway Commercial (25 acres truck stop; 2 acres hotel/motel; 10 acres mini storage; 51 acres general highway commercial). Twenty-two (22) of these acres previously designated "heavy industrial" in the General Plan.
- Block G (60 acres) – Heavy Industrial being added to SOI.
- Block H (23.9 acres) – Heavy Industrial in General Plan remains unchanged.

Additional details regarding the buildout assumptions are included in the Project Description, Chapter 2.0.



T:\City of Greenfield\Graphic Development\Figures\Figure 3.11-2.ai, January 2006

No Scale

N

Figure 3.11-2

Land Uses and Acreage Assumptions

PMC

This page intentionally left blank.

Analysis Scenarios

The impact analysis is based on the Traffic Impact Study prepared by Higgins Associates, which evaluated AM and PM peak hour traffic operations for the following traffic scenarios:

- Existing Conditions
- Existing Plus Background Conditions (where "background" is represented by projects that are approved but not constructed, or under construction)
- Existing Plus Background Conditions Plus Short Term Development (where "Short Term" development is represented by the applicant's Interim Phase); and
- General Plan Buildout Conditions (which assumes full buildout of all General Plan and Project land uses).

For analysis purposes, the "Short Term Development" or "Interim Phase" development scenario assumes that the residential and highway commercial uses would develop first, and heavy industrial uses to the east would develop over a longer period of time (see Chapter 2.0, Project Description). This assumption is merely an estimate used to calculate interim project trip generation to identify key infrastructure needs. As described in the Project Description, any land use or parcel can develop under the interim scenario.

Additional detail regarding land use and development assumptions for each scenario are contained within the Traffic Impact Analysis found in the Technical Appendices to this EIR.

Analysis Methodology

Peak Hour Signal Warrants

Peak Hour Signal Warrants were analyzed for all unsignalized intersections based on the methodologies described in the Manual on Uniform Traffic Control Devices (MUTCD, 2000) and the MUTCD Caltrans 2003 supplement. The decision to install a traffic signal is not based purely on the warrants alone; but also on the engineering judgment exercised on a case-by-case basis.

Traffic Analysis Zones (TAZ's)

A Traffic Analysis Zone (TAZ) map was created for the City's General Plan. The City was divided into planning areas based on land use type, roads and other characteristics in order to determine trip generation for each zone. The addition of the project results in the addition of new TAZ's and a dividing the existing TAZ 42 into more zones. TAZ 43 and TAZ 44 make up the project site.

Trip Generation and Distribution

The TIS completed by Higgins Associated indicates that project traffic was calculated using rates from the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 7th Edition, 2003 and field surveys for the truck stop. The project-generated trips for all scenarios were assigned over the traffic network.

Traffic Operation Evaluation Methodologies

Roadway segments were analyzed by making use of level of service (LOS) analysis, based on either peak our or daily volumes for different roadway classes. Quantitative LOS analyses were performed for study intersections and highway segments, based on the 2000 Highway Capacity Manual (HCM) methodologies. Intersection operations were evaluated using the TRAFFIX 7.7 analysis software program.

Truck Stop Surveys for Comparative Purposes

No ITE data is available specifically for truck stop uses. To accurately estimate vehicle trips associated with this anticipated use, two truck stop locations were surveyed to estimate the number of trips generated. The facilities surveyed were the Garlic Farm truck stop in Gilroy, and a truck stop at Santa Nella at Interstate 5 and Highway 33. All volumes and truck counts used for analysis purposes are contained in the Technical Appendices to this EIR.

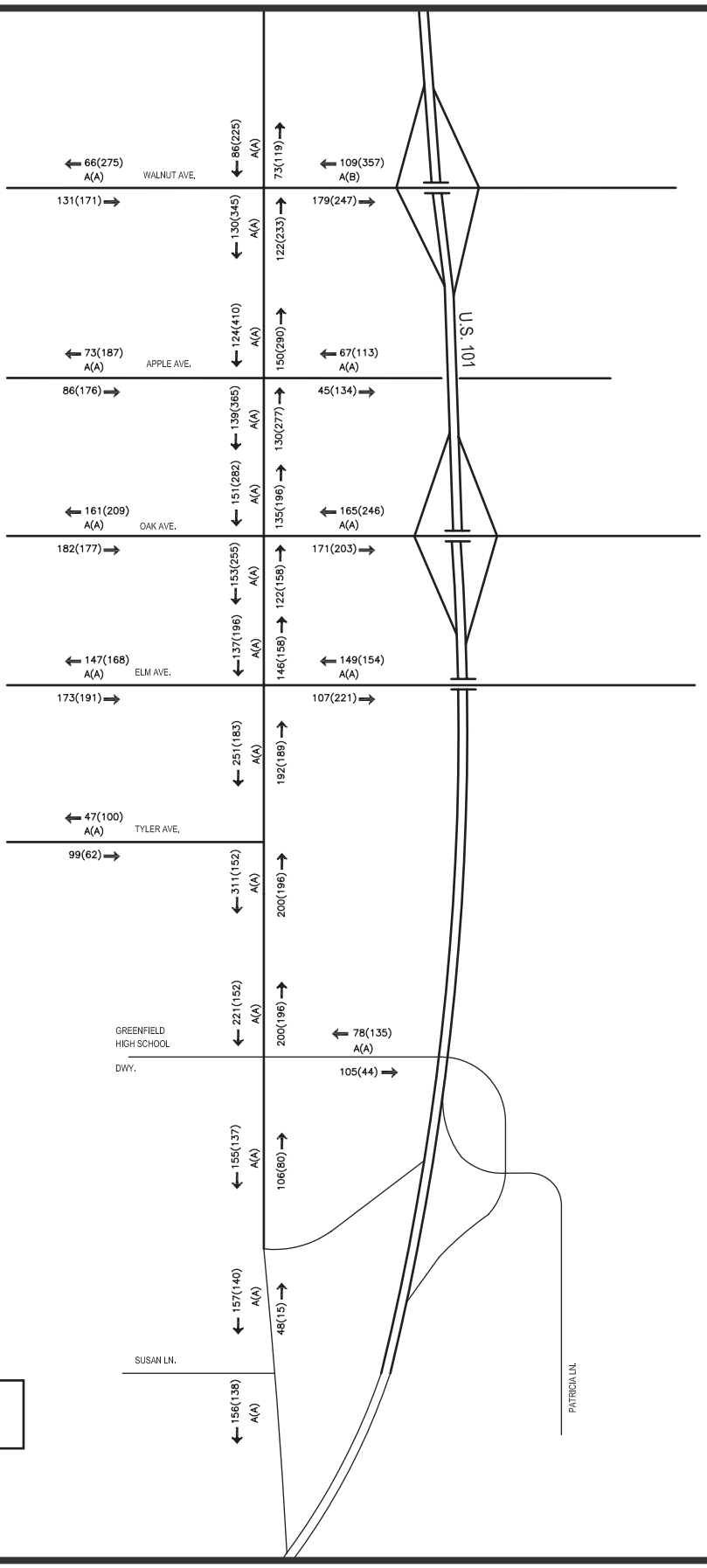
Additional information regarding the study's specific analysis methods is contained within the Technical Appendices to this EIR.

IMPACT ANALYSIS RESULTS

Existing and Existing Plus Background Traffic Conditions

The traffic impact analysis prepared by Higgins Associates concludes that all study intersections and roadway segments under existing conditions operate at acceptable levels of service (LOS A or B), and therefore there are no existing problem areas that require mitigation.

Based on building permit data collected from the City, Higgins estimated the buildout potential of approved by not yet constructed projects. The analysis concludes that these "background" projects will not significantly impact any of the study intersections or roadway segments. In addition, these projects have mitigated their own impacts within the roadway system and/or development impact fees have been collected. Please see the Traffic Impact Study within the Technical Appendices of this EIR for more detail regarding the Existing and Existing Plus Background analysis scenarios. Existing conditions levels of service and segment volumes are illustrated in **Figure 3.11-3**.



Source: Higgins Associates

T:\City of Greenfield\Graphic Development\Figures\Figure 3.11-3.ai, January 2006

NOT TO SCALE

FIGURE 3.11-3

EXISTING CONDITIONS SEGMENT VOLUMES AND LEVELS OF SERVICE

PMC

This Page Intentionally Left Blank

Background Plus Interim Project Traffic Conditions

Under the Background Plus Interim Project traffic scenario, the interim (Phase I) project assumptions are expected to generate 15,606 daily trips with 626 trips in the morning peak hour (288 in, 338 out) and 1,537 trips in the evening peak hour (789 in, 748 out). The interim project generated trips and trip distribution are described in detail within the Traffic Impact Analysis in the Technical Appendices, and illustrated in **Figure 3.11-4**. Impacts associated with additional vehicle trips are listed below.

El Camino Real/Espinosa Overpass/High School Driveway

Impact 3.11-1 In the interim development scenario, the one-way stop intersection of El Camino Real/Espinosa Overpass/High School Driveway will operate at an overall LOS F during both the AM and PM peak hour. This is a **significant** impact of the project.

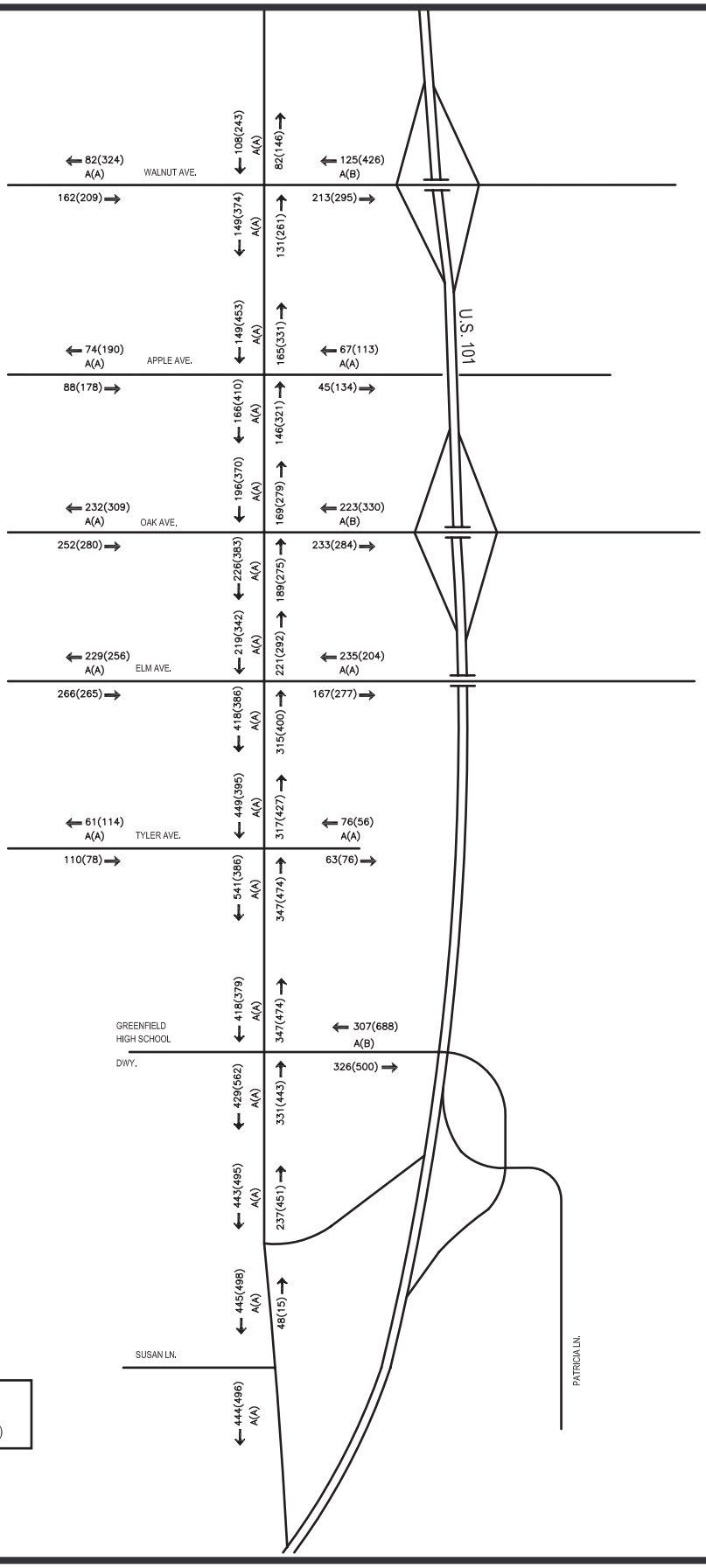
MM 3.11-1 The project is responsible for widening and other improvements at the two-way stop controlled intersection at the El Camino Real/Espinosa Overpass/High School Driveway. The intersection shall be widened to include a northbound right turn lane and signalization. With these improvements, the intersection will operate at LOS B. All improvements are the responsibility of the project, and shall be complete prior to first occupancy.

Highway 101 NB Ramps/Patricia Lane/El Camino Real (south) Intersection

Impact 3.11-2 In the interim development scenario, the Highway 101 NB ramps/Patricia Lane/El Camino Real (south) two-way stop controlled intersection would operate at overall LOS D during the AM peak hour, and LOS F during the PM peak hour. The intersection would operate at LOS F on the worst approach during both the AM and PM peak hour. This is a significant impact of the project.

MM 3.11-2 The project is responsible for widening and other improvements at the intersection of El Camino Real (south/Highway 101 NB Ramps/Patricia Lane. Required improvements include a separate westbound right turn lane and signalization. The Highway 101 NB on- and off- ramp shall be lengthened via auxiliary lanes to accommodate the increase in traffic volumes and to bring the ramps to Caltrans standards. With these improvements the intersection will operate at LOS B in the AM peak hour and LOS C in the PM peak hour. All improvements are the responsibility of the project, and shall be complete prior to first occupancy.

This Page Intentionally Left Blank



Source: Higgins Associates

T:\City of Greenfield\Graphic Development\Figures\Figure 3.11-4.ai, January 2006

NOT TO SCALE

FIGURE 3.11-4

INTERIM CONDITIONS SEGMENT VOLUMES AND LEVELS OF SERVICE

PMC

This Page Intentionally Left Blank.

Table 3.11-4 summarizes the average delays and LOS for all study intersections. The Interim Project volumes were added to the Existing and Background volumes to obtain the above results for these intersections. The intersections both operate at LOS F on the worst approach during both the AM and PM peak hour. With an LOS standard of C, the mitigation is required. Background Plus Interim

With regard to roadway segments, all segments are expected to operate at LOS C or better (Figure 3.11-4). Impacts to roadway segments are less than significant.

Implementation of the mitigation measures will reduce Impact 3.11-1 and 3.11-2 to a **less than significant** level by implementing specific improvements to improve intersection operations.

Highway 101 Analysis

Impact 3.11-3 In the interim development scenario, the project will add traffic volumes to Highway 101 north and south. This is a **less than significant** impact.

The project is estimated to generate approximately 15,606 daily trips for Background Conditions. It is expected that 40% of the trips will travel northbound and 30% southbound on Highway 101, from the Espinosa interchange.

Recently proposed developments in King City revealed some increased traffic forecasts on Highway 101 for Background conditions and these traffic numbers were used to calculate the corresponding levels of service for Highway 101 north and south of Greenfield. The most recent volumes are only estimates based on pending studies and have not been approved by any regional agency. The current Caltrans acceptable LOS is C. **Table 3.11-5** summarizes Highway 101 levels of service.

TABLE 3.11-5
HIGHWAY 101 LEVELS OF SERVICE

Roadway Segment			Existing Lanes	Background Daily Volume	LOS w Existing Lanes	Short Term Project Daily Volume	Background Plus Project Daily Volume	LOS w Existing Lanes	Improved Lanes Required
Highway 101	north of	Thorne Road	4F	48,600	C	6,242	54,842	C	None
Highway 101	between	Thorne Road & Walnut Avenue	4F	40,000	C	6,242	46,242	C	None
Highway 101	between	Walnut Avenue & Oak Avenue	4F	35,000	B	6,242	41,242	C	None
Highway 101	between	Oak Avenue & Espinosa Road Overpass	4F	32,000	B	6,242	38,242	C	None
Highway 101	south of	Espinosa Road Overpass	4E	31,500	C	4,682	36,182	C	None

Notes:
4E = 4 Lane Expressway
4F = 4 Lane Freeway

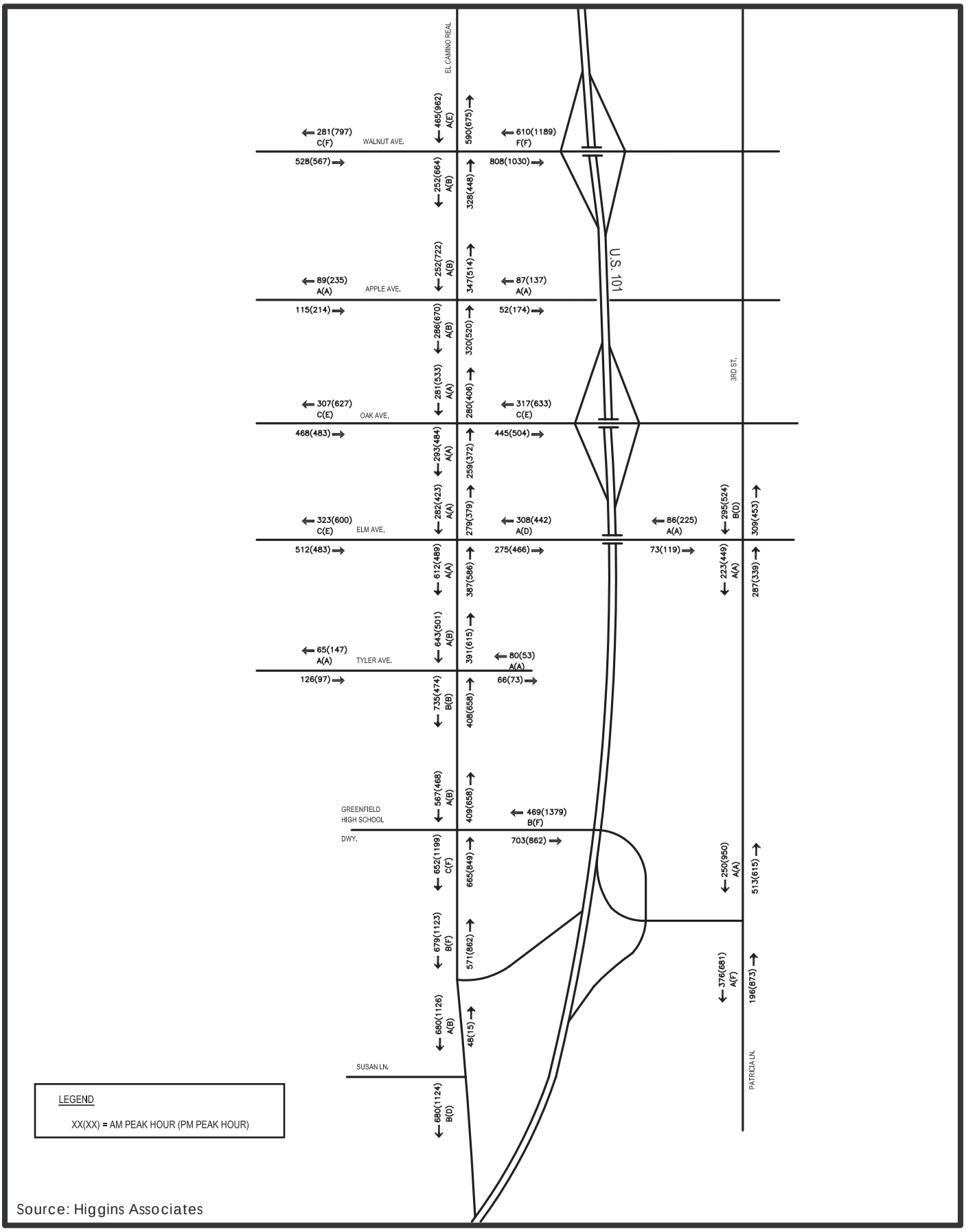
The analysis indicates that with the addition of the interim project trips, no widening of Highway 101 is required with or without the interim project development.

No mitigation is required in this scenario.

General Plan Buildout Plus Project Buildout Traffic Conditions

Traffic from buildout of the General Plan Plus Project was calculated using rates from the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 7th Edition, 2003 and conducting surveys at truck stop facilities. The project is expected to generate 31,997 daily trips with 1,177 trips in the morning peak hour (685 in, 492 out) and 3,223 trips in the evening peak hour (1,492 in, 1,731 out). All details regarding traffic generation and distribution for this scenario are contained within the Traffic Impact Analysis within the Technical Appendices to this EIR, and illustrated in **Figure 3.11-5**.

The following impacts and mitigation measures are directly related to the General Plan Buildout Plus Project scenario.



Source: Higgins Associates

T:\City of Greenfield\Graphic Development\Figures\Figure 3.11-5.ai, January 2006

NOT TO SCALE

FIGURE 3.11-5

GPBO CONDITIONS SEGMENT VOLUMES AND LEVELS OF SERVICE

PMC

.

This Page Intentionally Left Blank

Intersection Levels of Service

Impact 3.11-4 Full buildout of all phases of the project as proposed, together buildout of the Greenfield General Plan land uses, will cause several study intersections to operate below LOS C or D during the AM and/or PM peak hour. This cumulative buildout condition triggers the need for significant improvements to the City's roadway network, including a new freeway interchange at Highway 101 and Espinosa Road. The project's contribution to these impacts and required improvements is **significant**.

With the addition of the project, the existing Patricia Lane /El Camino Real (South) Overpass will not be able to provide adequate capacity. The limited land availability on the west side of the interchange and the close spacing of the interchange ramps to the main line, limits improvement opportunities that would meet Caltrans standards without acquiring several developed properties in the vicinity of the interchange, which may not be feasible. The existing bridge would also have to be widened or reconstructed.

For these reasons, it is recommended that a new interchange be constructed further south and that the existing over crossing at Patricia Lane be retained to provide additional access across the freeway, but that the ramps (access to and from the freeway) be eliminated. Thus the existing Espinosa Overpass would provide access between the east and west sides of the City. The new interchange would be located further south along Highway 101 at Espinosa Road.

Retaining the existing over crossing will reduce capacity requirements at the new interchange. It should be noted that land will be required on both sides of Highway 101 to accommodate service roads and the new interchange at the proposed location. All intersection LOS results are presented in **Table 3.11-4**. Specifically, the following intersection impacts and conditions would occur under the General Plan Buildout Plus Project scenario:

- The one-way stop intersection of Patricia Lane / Espinosa Road would operate at an overall LOS F during both the AM and PM peak hours, thus with an LOS standard of C mitigation is required.
- The two-way stop intersection of Espinosa Overpass / Hwy. 101 NB Off-Ramp / Patricia Lane / Hwy. 101 NB On-Ramp will not exist in this scenario. The new Espinosa Interchange will be constructed.
- The one-way stop intersection of El Camino Real / Hwy 101 SB On-Ramp / Susan Lane will not exist in this scenario. The new Espinosa Interchange will be constructed.

- The one-way stop intersection of El Camino Real / Hwy 101 SB Off-Ramp will not exist in this scenario. The new Espinosa Interchange will be constructed.
- The two-way stop intersection of El Camino Real / Espinosa Overpass – High School Driveway would operate at overall LOS F during both the AM and the PM peak hour and on the worst approach during the AM peak hour and LOS F during the PM peak hour, thus with an LOS standard of C mitigation is required.
- The one-way stop intersection of El Camino Real / Tyler Avenue would operate at overall LOS C during both the AM and LOS F during the PM peak hour and on the worst approach at LOS F during the AM peak hour and LOS F during the PM peak hour, thus with an overall LOS standard of C and a worst approach LOS of E, mitigation is required.
- The four-way stop intersection of El Camino Real / Elm Avenue would operate at overall LOS F during both the AM and the PM peak hour, thus with an LOS standard of C mitigation is required.
- The all-way stop intersection of El Camino Real / Oak Avenue would operate at LOS F during the AM peak hour and LOS F during the PM peak hour, thus with an LOS standard of D mitigation is required.
- The all-way stop intersection of El Camino Real / Apple Avenue would operate at LOS B during the AM peak hour and LOS F during the PM peak hour, thus with an LOS standard of D mitigation is required.
- The all-way stop intersection of El Camino Real / Walnut Avenue would operate at LOS F during the AM peak hour and LOS F during the PM peak hour, thus with an LOS standard of D mitigation is required.
- The one-way stop intersection of Hwy. 101 SB Ramps / Walnut Avenue would operate at overall LOS F during both the AM and the PM peak hour and on the worst approach at LOS F during the AM peak hour and LOS B during the PM peak hour, thus with an LOS standard of C mitigation is required.
- The one-way stop intersection of Hwy 101 NB Ramps / Walnut Avenue would operate at overall LOS F during both the AM and the PM peak hour and on the worst approach at LOS F during the AM peak hour and LOS F during the PM peak hour, thus with an LOS standard of C and worst approach standard of E, mitigation is required.
- The one-way stop intersection of Hwy 101 SB Ramps / Oak Avenue would operate at overall LOS C during both the AM and LOS C in the PM peak hour and on the worst approach at LOS F during the AM peak hour and LOS E during the PM peak hour, thus with an overall LOS standard of C and worst approach standard of E, mitigation is required.

- The one-way stop intersection of Hwy 101 NB Ramps / Oak Avenue would operate at overall LOS B during both the AM and LOS D in the PM peak hour and on the worst approach at LOS F during the AM peak hour and LOS F during the PM peak hour, thus with an LOS standard of C and worst approach standard of E, mitigation is required.
- The one-way stop intersection of 3rd Street / Elm Avenue would operate at overall LOS C during both the AM and LOS F in the PM peak hour and on the worst approach at LOS E during the AM peak hour and LOS F during the PM peak hour, thus with an LOS standard of D and worst approach standard of E, mitigation is required.

All trip generation values for all scenarios are contained in the Traffic Impact Analysis within the Technical Appendices to this EIR.

MM 3.11-4a The project shall be responsible for providing a new interchange at Highway 101 and Espinosa Road, including all related ramp improvements, lane configurations and necessary right of way acquisition as specified in the Traffic Impact Analysis (Higgins Associates, February 2006). The interchange shall be required at such time as traffic trips associated with project development warrant the improvement. As the interchange is not warranted without the project, the project shall fund the cost of the interchange up front until such time as reimbursement agreements, bonds, fees or other shared funding options are put in place by the City of Greenfield.

MM 3.11-4b The project shall be responsible for fair share contribution toward a series of planned intersection improvements as identified within the Greenfield General Plan Circulation Element. Fifteen intersections, as identified in the Traffic Impact analysis (Higgins Associates, February 2006) are significantly affected by project buildout. The project shall contribute fair share funding toward these intersection improvements through payment of traffic impact fees prior to issuance of building permits. If the project triggers these improvements, the project may also be required to provide up front funding until such time as reimbursement agreements, bonds, fees or other shared funding options are put in place by the City.

The above mitigation measures will mitigate intersections under the General Plan plus project buildout scenario to a **less than significant** impact by providing capacity through a new interchange, and by assessing project impact fees toward previously planned improvements. All intersection improvements for all scenarios are summarized in **Table 3.11-6** below.

TABLE 3.11-6
INTERSECTION MITIGATION REQUIREMENTS, ALL ANALYSIS SCENARIOS

N-S Street		E-W Street	Existing Lane Configuration	Existing Intersection Control	Existing Conditions	Background Plus Project Conditions	General Plan Conditions
1	Patricia Lane	Espinosa Road	NB 1-T/R SB 1-L/T WB 1-L/R	1-way stop WB Worst Approach	None Required	None Required	Intersection to be realigned /reconfigured to NB 1-T, 1-T/R; SB 1-L, 2-T; WB 2-L, 1-R
2	Espinosa Overpass/Hwy 101 NB Off Ramp	Patricia Lane/Hwy 101 NB On Ramp	NB 1-L/T/R SB 1-L, 1-R WB 1-T/R	2-way stop SB/WB Worst Approach	None Required	Signalize Add WBR	NB Highway 101 Ramps to be removed. New Southern interchange to be constructed at Espinosa Road
2A	Hwy 101 NB Ramps	Espinosa Road	No intersection		None Required	None Required	New Interchange Terminal
3	El Camino Real/Hwy 101 SB On Ramp	Susan Lane	SB 1-T/R EB 1-L/R	1-way stop EB Worst Approach	None Required	None Required	Intersection to be removed. Susan Lane to connect to Espinosa Rd
4	El Camino Real	Hwy 101 SB Off Ramp	No intersection		None Required	None Required	NB Highway 101 Ramps to be removed. New southern interchange to be constructed at Espinosa Road
4A	Hwy 101 SB Ramps	Espinosa Road	NB 1-L/T/R SB 1-L, 1-R WB 1-T/R	2-way stop SB/WB Worst Approach	None Required	None Required	New interchange terminal
5	El Camino Real	Espinosa Overpass High School Dwy	NB 1-L, 1-T/R SB 1-L, 1-T EB 1-L, 1-T/R WB 1-L/T, 1-R	2-way stop EW Worst Approach	None Required	Signalize Add NBR	Add 2nd SBT. Restripe EB to 1-L/T, 1-R
6	El Camino Real	Tyler Avenue	NB 1-L, 1-T/R SB 1-L, 1-T, 1-T/R EB 1-L/R	1-way stop EB Worst Approach	None Required	None Required	Signalize
7	El Camino Real	Elm Avenue	NB 1-L/T, 1-R SB 1-L/T/R EB 1-L/T/R WB 1-L/T/R	4-way stop	None Required	None Required	Signalize Add NBL, SBL, EBL, and WBL
8	El Camino Real	Oak Avenue	NB 1-L/T/R SB 1-L/T/R EB 1-L/T/R WB 1-L/T/R	4-way stop	None Required	None Required	Signalize Add NBL and SBL
9	El Camino Real	Apple Avenue	NB 1-L/T/R SB 1-L, 1-T/R EB 1-L/T/R WB 1-L/T/R	4-way stop	None Required	None Required	Signalize Add NBL
10	El Camino Real	Walnut Avenue	NB 1-L, 1-T/R SB 1-L, 1-T/R EB 1-L/T/R WB 1-L, 1-T/R	4-way stop	None Required	None Required	Signalize Add NBR, 2nd SBL, SBR, EBL, and WBR
11	Hwy 101 SB Ramps	Walnut Avenue	SB 1-L/T, 1-R EB 1-T, 1-R WB 1-L/T	1-way stop SB Worst Approach	None Required	None Required	Signalize Add 2-SBL, SBR, 2nd EBT, 2-WBL
12	Hwy 101 NB Ramps	Walnut Avenue	NB 1-L/T, 1-R EB 1-L/T WB 1-T/R	1-way stop NB Worst Approach	None Required	None Required	Signalize. Reconstruct NBR to a free right. Add 2-EBL, 2-EBT, 2-WBT and 2-WB free rights
13	Hwy 101 SB Ramps	Oak Avenue	SB 1-L/T, 1-R EB 1-T/R WB 1-L/T	1-way stop SB Worst Approach	None Required	None Required	Signalize Add 2-WBL
14	Hwy 101 NB Ramps	Oak Avenue	NB 1-L/T, 1-R EB 1-L/T WB 1-T/R	1-way stop NB Worst Approach	None Required	None Required	Signalize Add 2-EBL
15	3rd Street	Elm Avenue	SB 1-L/R EB 1-L/T WB 1-T/R	2-way stop NS Worst Approach	None Required	None Required	Signalize Add NB leg, SBL, EBL and WBL
16	Elm Circle New Road	Elm Avenue	SB 1-L/R EB 1-L/T WB 1-T/R	1-way stop SB Worst Approach	None Required	None Required	None Required

Roadway Segment Levels of Service

Impact 3.11-5 Full buildout of all phases of the project as proposed, together buildout of the Greenfield General Plan land uses, will cause several roadway segments to operate at LOS E or F. As the City's standard for segment operation is LOS C (and in some cases D), this is a **significant** impact.

MM 3.11-5 The project shall be responsible for fair share contribution toward a series of planned roadway segment improvements as identified within the Greenfield General Plan Circulation Element. Roadway segments, as identified in the Traffic Impact analysis (Higgins Associates, February 2006) are significantly affected by project buildout. The project shall contribute fair share funding toward these segment improvements through payment of traffic impact fees prior to issuance of building permits. If the project triggers these improvements, the project may also be required to provide up front funding until such time as reimbursement agreements, bonds, fees or other shared funding options are put in place by the City.

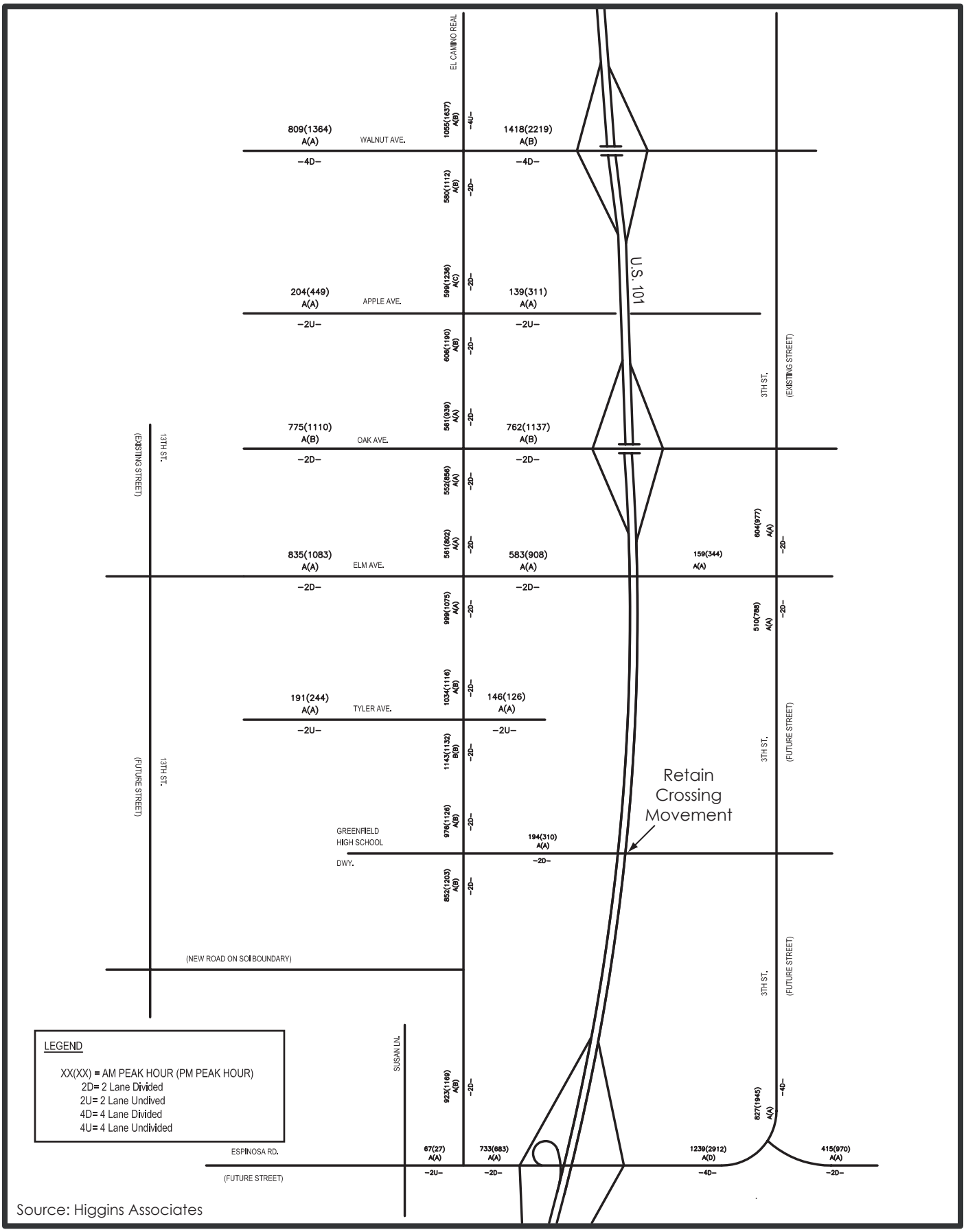
The above measure will mitigate the impact by requiring the project to contribute proportionate fees toward previously planned roadway improvements.

Roadway Network Expansion

Impact 3.11-6 Implementation of the project will require modifications to the Greenfield's roadway network at the south end of City. Expansion of the City's planned roadway network to accommodate land uses within the Sphere of Influence Amendment is a **significant** impact of project buildout.

The addition of the residential uses on the west side of town and the commercial and industrial uses on the east side requires that the arterial road network be expanded. Third Street will extend southwards from Elm Street to Espinosa Road. Current volumes indicate that a three-lane facility is required just south of Elm Street and a four-lane facility from the freeway to north of Espinosa Road. Based on ultimate site plan proposals, these lane configurations may change. The addition of the residential uses on the southwest side of town will require the extension of 13th Street southwards to the end of the Sphere of Influence line. Thirteenth Street would then extend eastwards along the southern boundary of the Sphere of Influence up to El Camino Real. This new street would provide access to both the Residential Estate and Low Density Residential uses. The end result would be a "loop" configuration around the south end of the City. The mitigated General Plan Buildout Plus Project conditions (segment volumes and levels of service) are illustrated in **Figure 3.11-6.**

This Page Intentionally Left Blank



Source: Higgins Associates

T:\City of Greenfield\Graphic Development\Figures\Figure 3.11-6.ai, January 2006

NOT TO SCALE

FIGURE 3.11-6

MITIGATED GPBO CONDITIONS SEGMENT VOLUMES AND LEVELS OF SERVICE

PMC

This Page Intentionally Left Blank

As a secondary effect of the project, the City of Greenfield's traffic impact fee program and General Plan circulation element will require updates to reflect the expanded roadway network.

MM 3.11-6a Detailed site planning within the South End SOI area shall accommodate plans for the expanded roadway network and "loop" connection system. Circulation planning shall be conducted in consultation with the Director of Public Works at the time of application submittal, and shall be consistent with the Circulation Element. Any project requiring the expanded roadways will be required to dedicate right of way and construct roads to City standards.

MM 3.11-6b Prior to the City's application to LAFCO to amend the SOI, the project applicant shall contribute a share of the costs associated with updating the General Plan Circulation Element, as the update is required as a direct result of the project. Appropriate share will be determined by the City of Greenfield.

MM 3.11-6c Immediately upon approval of the project by the City of Greenfield, the applicant shall fund the full cost of updating the City's traffic impact fee program, as the update is required as a direct result of the project.

The above measures will mitigate the impact of expanding the roadway network to a less than significant level by requiring planning in consultation with the City and requiring applicant contribution toward the direct costs associated with amending the City's plans and fee programs.

General Plan Buildout Plus Project Traffic Conditions – Highway 101 Traffic Volumes

Impact 3.11-7 With full General Plan buildout plus Project traffic, additional widening on Highway 101 to six lanes would be required. This is a **significant** impact.

The project is estimated to generate approximately 32,000 daily trips. It is expected that 40 percent of the trips will travel northbound and 30 percent southbound on Highway 101, from the new Espinosa Road interchange.

Recent proposed developments in King City revealed some increased traffic forecasts on Highway 101 and these traffic numbers were used to calculate the corresponding levels of service for Highway 101 north and south of Greenfield. There is an increase in Highway 101 volumes, especially south of Greenfield based on the proposed King City Developments, which also impacts Highway 101 through the City. The most recent

volumes are only estimates and have not been approved by any regional agency. The current Caltrans acceptable LOS is C.

Table 3.11-7 below indicates that with the project volumes added to Highway 101, additional widening to six lanes would be required through the City between the Walnut Avenue interchange and the Thorne Road interchange based on volume thresholds. Increased volumes between Walnut Avenue and Oak Avenue and the short distance between these interchanges may also require widening to six lanes based on adverse operational conditions. This is an impact attributable to the project. The need for additional lanes north of Thorne Road would be required with or without the project based upon projected cumulative volumes for Highway 101.

The new Espinosa Road interchange would be located approximately one mile south of the Oak Avenue interchange, no highway widening between Oak Avenue and the interchange would be required. South of the Espinosa interchange, the freeway would be upgraded from a four lane expressway to a four lane freeway. This is not a project impact, since the freeway would operate at LOS D without the project and would have to be upgraded.

TABLE 3.11-7
GENERAL PLAN BUILDOUT PLUS PROJECT TRAFFIC CONDITIONS
HIGHWAY 101 TRAFFIC VOLUMES

Roadway Segment			Existing Lanes	GPBO Daily Volume	LOS w Existing Lanes	Project Daily Volume	GPBO Plus Project Daily Volume	LOS w Existing Lanes	Improved Lanes Required	LOS w Improvement
Highway 101	north of	Thorne Road	4F	61,500	D	15,775	77,275	F	6F	C
Highway 101	between	Thorne Road & Walnut Avenue	4F	50,600	C	15,775	66,375	E	6F	C
Highway 101	between	Walnut Avenue & Oak Avenue	4F	40,200	B	15,775	55,975	C	None Required	NA
Highway 101	between	Oak Avenue & Espinosa Road Overpass	4F	39,000	B	15,775	54,775	C	None Required	NA
Highway 101	south of	Espinosa Road Overpass	4E	41,300	D	11,830	53,130	F	4F	C

Notes:
4E = 4 Lane Expressway
4F = 4 Lane Freeway
6F = 6 Lane Freeway

There is currently no fee collection mechanism in place by the City, TAMC or Caltrans for the funding of Highway 101 widening projects within or outside the City. Widening of the highway would be considered a major capital project, and no calculations have been made regarding the cost of such improvements. As such, project mitigation for widening the freeway through the City (or contributing towards a regional widening project north of the City) is considered infeasible until such time that the City establishes an impact fee specifically to be used toward freeway mainline widening. Until such a fee is in place, the

project impact on the freeway between Thorne Road and Oak Avenue, as well a project contribution to cumulative freeway impacts north of Thorne Road, is considered **significant and unavoidable.**

Parking Capacity

Impact 3.11-8 Buildout of the proposed project will result in a need for on-site parking facilities. This is a **less than significant** impact.

The proposed project will be required to provide sufficient on-site parking supply meeting the City's requirements for each of the proposed uses. At the time of project application with the City of Greenfield the project will be required to comply with the most current Greenfield Zoning Ordinance. No mitigation is required at this time.

Pedestrian and Bicycle Facilities

Impact 3.11-9 The proposed project will result in the construction of residential development in a largely rural setting lacking adequate pedestrian facilities and bicycle facilities and lanes. This is a **potentially significant** impact.

The proposed South End SOI project will be required to include pedestrian and bicycle facilities as part of the proposed development as identified in the Greenfield General Plan. Currently within the project vicinity, El Camino Real is a Class III bike facility from Tyler Street to Elm Street and a Class II bike facility from Tyler Street south to the High School entrance. Bike lanes are provided on both sides of El Camino Real between Walnut and Elm Avenues. The project site currently does not have existing bicycle or pedestrian facilities. The remaining sections of El Camino Real are designated as Bike Routes in the General Plan. However, no signing or striping is provided. Future bikeway and pedestrian improvements should follow the goals of the General Plan and be reviewed by city staff.

MM 3.11-9a The project applicant(s) shall design and construct adequate bicycle facilities including lanes, routes, or paths in compliance with the Greenfield General Plan and current Zoning Ordinance. The design and location of bicycle facilities will be demonstrated as part of future application submittals and subject to review by the City of Greenfield.

MM 3.11-9b Applicants shall construct sidewalks along project frontages, entrances, Espinosa Road and along the interior street of the proposed residential development as required by City standards. Project and subdivision design shall emphasize pedestrian connectivity between land uses by utilizing trails and pathways in project design.

Implementation of **MM 3.11-9a and –9b** would reduce the impact by providing pedestrian and bicycle connectivity as a part of more detailed project design.

Transit System

Impact 3.11-10 The future construction of residential dwelling units and of highway commercial uses will result in a greater demand for area transit services. This is considered a **less than significant** impact.

Presently, the Auto Lift automobile transit system operates in the City of Greenfield. It has no fixed routes and is a demand-response system. The Monterey-Salinas Transit (MST) currently travels through the City of Greenfield. Future residential, industrial and highway commercial on the project site is expected to result in slight increases in demand, but is not expected to require physical expansion of any transit systems. Therefore, the impact to area transit systems is considered **less than significant**. No mitigation is required.

Secondary Effects from Project Improvements

Impact 3.11-11 Buildout of the project, including all required roadway improvements and roadway system expansions, will result in secondary environmental effects through the construction of those improvements. These environmental effects are a **potentially significant** consequence of the project.

CEQA requires that an EIR consider the secondary or indirect effects of a project. Based upon the needed improvements identified in the Traffic Impact Analysis, most notably the possible need for a new interchange and roadway network extensions in the south end of the City, the project will have secondary effects that could be significant. Those physical improvements will require construction, grading, and land acquisition, and could result in secondary biological, cultural, air quality geotechnical or other impacts upon the environment.

MM 3.11-11 As more detailed planning involving specific physical infrastructure improvements are made available, such improvements shall undergo additional CEQA review either as stand alone projects or as components of specific development projects. All mitigation as required by that review shall be imposed upon the construction and implementation of needed infrastructure improvements.

The above programmatic mitigation is intended to disclose that future infrastructure improvements required by the South End SOI project may result in secondary effects, and that those effects must also be addressed through the planning and environmental review process. This EIR acknowledges that the extent of such secondary impacts cannot be

known at this time. However, based on the physical conditions and setting of the project area, it is anticipated that all such impacts could be mitigated to a **less than significant** level.

REFERENCES/DOCUMENTATION

City of Greenfield. *Greenfield General Plan and General Plan EIR*. October 2005

City of Greenfield. *Zoning Code*. 1981 as updated.

Higgins Associates. *Traffic Impact Study for Franscioni/Scheid Development, City of Greenfield, CA*. February, 2006.

This Page Intentionally Left Blank

Section 3.12
Public Services and Utilities

This section of the EIR addresses existing infrastructure and utilities in Greenfield serving the project site, discusses the proposed project relative to the City of Greenfield General Plan and evaluates the potential impacts to these services and systems. Potential impacts focus on increased potable water demand, expansion of wastewater collection and treatment systems, solid waste and hazardous waste collection, demands on school district facilities, law enforcement and fire services, the need for additional parks and recreation opportunities and additional basic utilities. (See **Section 3.8**, Drainage and Water Quality, for a discussion of stormwater infrastructure impacts). This analysis is based on the Greenfield General Plan and Zoning Code, City Water and Wastewater Capital Improvement Plans, information provided by the City Engineer, Public Works Director and other department staff, previous environmental documents, including the *2005 Greenfield General Plan EIR*, as well as various technical reports.

3.12.1 EXISTING SETTING

POTABLE WATER SUPPLY

The City of Greenfield Public Works Department is responsible for water supply and delivery in the City of Greenfield. The City currently utilizes local groundwater as its sole source of water supply. The current total potable water demand in Greenfield is 4.7 acre-feet per day, or 1,716 acre-feet annually (AFA). The City currently has capacity to serve 18.34 acre-feet per day, which equates to a total annual capacity of 6,694 AFA.

Groundwater Yield and Municipal Wells

The groundwater basin underlying Greenfield is the Upper Salinas Valley Sub-basin in the Salinas Valley. The sub-basin is a distinct groundwater unit within the Salinas Valley Aquifer. The basin is linear in shape and runs under the Valley from San Ardo to Monterey Bay. The primary water-bearing formations are unconsolidated, and semi-consolidated deposits that make up the alluvium, Aromas sand, and the Pleistocene and Pliocene Paso Robles Formation. These layers are several thousand feet thick in the center of the Valley.

The Salinas Valley Groundwater Basin is currently experiencing overdraft conditions. Seawater intrusion is the most immediate concern from overdraft, with certain aquifers in the lower end of the Basin experiencing degradation. In the Upper Salinas Valley Sub-basin no problems are present; the closest known point of saltwater intrusion is 35 miles from the City. The Upper Salinas Valley sub-basin has extremely deep and productive alluvium. Wells within the sub-basin can yield up to 4,000 gallons per minute.

The City currently operates three groundwater wells. The wells pump directly into the one million-gallon Oak Avenue reservoir, located at the intersection of 13th Street and Oak Avenue, and meet system demands by pumping as needed and continually filling the

reservoir. These wells operate at a level sufficient to meet peak demands and fire flows by maintaining system pressures and a relatively constant water level in the reservoir. Well No. 1 is the primary water supply for the City of Greenfield. Well No. 2 has been capped off due to nitrates. Well No. 3 has also been concrete filled and abandoned. Well No. 4 is no longer in service, but the pump at the facility remains intact. Well No. 5, located at 13th Street and Oak Avenue, alternates in use with Well No.1 unless simultaneous use is necessary. Well No. 6 is located adjacent to Well No. 1 and is intended to alternate with Well No. 1. Due to the close proximity of Wells 1 and 6, the concurrent operation of these sources results in a drawdown effect. There is sufficient distance between wells 1 and 5, and wells 5 and 6, to ensure that they do not adversely influence each other while pumping simultaneously. As a result, Well No. 5 is continuously in operation. A new well, Well 7, is planned in conjunction with addition of a new 1.5 million-gallon storage reservoir at such time that it is needed in the future (this reservoir is currently approved and will soon be under construction). This reservoir will simplify the system's operation and provide for increased system reliability.

The City routinely tests its wells to ensure that the groundwater pumped meets EPA and DOHS drinking water standards. The water quality of the primary wells is good and currently meets all regulatory standards. The City is not currently experiencing nitrate problems with its active wells. A complete listing of the mineral (organic and inorganic) constituents of the City's groundwater can be found in the City's annual Water Quality Report.

TABLE 3.12-1
EXISTING WATER SUPPLY

Well (1)	**Location**	**Depth (feet)**	**Capacity (gpm)**	**Seal Depth (feet)** (3)
1	14th St & Cherry Ave.	883	1,400	330
5	13th St. & Oak Ave.	860	900 (2)	600
6	14th St. & Cherry Ave.	880	1,550	280

Notes: (1) Wells 2, 3 and 4 have been abandoned, or are presently not in use; (2) Well # 5 was extensively rehabilitated in 2004, but production problems have continued. The well is being evaluated and tested at this time; (3) The well screens or louvers extend from the bottom of the seal to 20 feet above the bottom of each well in most cases.

Booster Pumping Stations

A booster pump station located adjacent to the 1.0 MG storage tank at 13th Street and Oak Avenue provides water pressure for the City of Greenfield. The pump station contains four pumps that operate on a variable speed principle, using variable frequency drive motors (VFD), which vary the amount of water pumped in accordance with the pressure and demand. **Table 3.12-2** describes the existing booster pump station.

TABLE 3.12-2
EXISTING WATER LINES

Diameter (inches)	Total Length (feet)
4″	11,590
6″	29,940
8″	19,610
10″	1,390
12″	21,955
16″	5,860
Total	90,345 feet (17.11 miles)

Source: Greenfield Water System Capital Improvement Plan Update 2005

Pressure Zone

The City's existing distribution system is served by one pressure zone. Since there are no significant changes in elevation throughout Greenfield, this pressure zone serves all of the existing developed areas in the City.

Transmission and Distribution

The City's existing transmission and distribution water pipe lines vary in diameter from four to 16 inches. The distribution system consists of over 17 miles of transmission and distribution mains made of cast iron, asbestos cement, plastic (C-900), and in a few instances, steel.

Pump Stations and Delivery System

The City of Greenfield's water system maintains its pressure with variable frequency drive pumps. The variable frequency drive pumps respond automatically to the system demand by drawing water from the city's storage tank, the Oak Avenue Reservoir. A 1,500-gallon surge tank serves as a surge protector for the system. As the one million-gallon tank is drawn down, the pumps respond to refill the tank. The well pump operating capacities and the well locations are summarized in **Table 3.12-3**.

TABLE 3.12-3
EXISTING WELLS/PUMP STATIONS

Well No.	Description/Status	Location	Operating Capacity
1	Well No. 1	14th St. and Cherry Ave. between Walnut Ave. and Cherry Ave.	1,800 gpm
2	Not in use (1); with pump still installed	Under water tank-Oak Avenue between 11th Ave. and 12th St.	Not in Use
3	Abandoned and removed	137 Seventh St. between Oak Ave. and Maple Ave.	Not in Use
4	Not in use (1); with pump still installed	Well under elevated tank-Oak Ave. between 11th St. and 12th St.	Not in Use
5	Well No. 5 and Booster Pump Station	13th St. and Oak Ave.	900 gpm
6	Well No. 6.	14th St. between Walnut Ave. and Cherry Ave.	1,800 gpm

Project Site

There is currently no potable water service to the project site. However, west of Highway 101 there is an existing 12-inch main in El Camino Real that would be extended about 1,000 feet from its present terminus at Greenfield High School to the entrance of the project site. The General slope of the existing project site is to the south. The proposed project would be graded to slope from the southwest to the northeast.

WASTEWATER AND SEWER SERVICE

The City of Greenfield wastewater system includes approximately 110,000 feet of gravity sewer, ranging in diameter from six to 24 inches and two large 0.4 mgd and four small sewage pump stations. The wastewater system has been extended over time as the City of Greenfield has expanded. Located in alleys and easements of the original downtown area, the sanitary sewer is predominately six inches in diameter. Newer pipes in residential areas to the west of the downtown area tend to be eight inch diameter polyvinyl chloride (PVC) pipe and are generally aligned in street rights-of-way. There is a network of trunk sewers, 12 inches in diameter or larger, with a 24-inch diameter interceptor, that generally flow from west to east and discharge into the Greenfield Wastewater Treatment Plant, located at the eastern end of Walnut Avenue.

Over the period of 1987 and 2005, the following major capital improvements to the wastewater collection and treatment system were completed:

- El Camino Real/ Cypress Interceptor - a 12 inch line from Pine avenue to Cypress, to a new lift station along Cypress Avenue; a 12 inch line along Cypress to Livingston

Road to the future Yanks Air Museum; a 12 inch line along Cypress then north from Cypress to Thorne Road was completed in 2004;

- A 0.4 MGD lift station on Cypress Avenue, completed in 2004;
- Third Street/Cherry Avenue/ El Camino Real Interceptor – a 24-inch line from Third/Walnut to Cherry, to El Camino Real; and an 18-inch line in El Camino Real to Pine Avenue;
- Apple Avenue/ Walnut Avenue Interceptor - including a 12 inch line for a 0.4 MGD lift station on El Camino Real near Tyler Street to Elm Avenue, to Fifth Street, to Apple Avenue; a 21 inch line on Apple Avenue from Highway 101 to Third Street, to Walnut Avenue; and a 24-inch line in Walnut Avenue from Third Street to the WWTP;
- A second Primary Clarifier at the WWTP;
- A 0.4 MGD lift station on El Camino Real near Tyler Street with 6-inch force main to 400 feet south of Elm Avenue;
- Replacement of the existing communator at the wastewater treatment plant with two larger more efficient sewage grinders;
- Pond and Spray Field Capacity – Pond acreage is 10.5 acres in five ponds. 10 acres of spray fields were expanded to 25 acres with the purchase of an additional 15 acres and subsequent spray fields;
- The aerobic digester was modified with replacement of the mixer with a diffused aeration system; and
- The first step in the expansion of the Greenfield WWTP as indicated in the engineering reports required in the Waste Discharge Requirements Order R3-2002-0062.
- Installation of a 1.0 MG clarifier, adequate disposal (spray fields) and installation of a digester.

Wastewater Treatment Plant

The current capacity of the City of Greenfield Wastewater Treatment Plant (WWTP) is 1.0 million gallons per day. The WWTP has reached and exceeded 90 percent of its capacity. The plant provides treatment and disposal of sanitary wastewater contributed by the residents of the City. The City of Greenfield wastewater treatment and disposal is

accomplished in accordance with the Waste Discharge Requirements Order No. **R3-2002–0062**, that has been established by the California Regional Water Quality Control Board, Central Coast Region. The order allows the capacity of the facility to be increased upon submittal by the City approval by the California Regional Water Quality Control Board of documentation that sufficient improvements have been made to the facility.

With the existing facility operating at almost 90 percent of capacity, the City of Greenfield is in the process of implementing the 2005 Wastewater Treatment Plant Expansion, which would result in a doubling of capacity from 1.0 million gallons a day (MGD) to 2.0 MGD. The City has chosen to break the project into three phases for purposes of financing. Phase 1 of the capacity expansion project consisted of general maintenance activities and minor alterations of existing infrastructure to achieve greater efficiencies of operation. Phase 2, currently being completed, involves the relocation of fencing and site grading to level and raise approximately 0.17 acres of land adjacent to existing treatment tanks, the removal of an existing oxidator/clarifier; and the construction of a 300 square foot sludge pump building and miscellaneous appurtenances. Phase 3 will complete the expansion with the construction of a digester.

Specific functions and design criteria for the WWTP can be found in the City's Wastewater System Capital Improvement Plan Update.

Waste Discharge Requirements

Waste Discharge Permit No. 89-18

The Central Coast Regional Water Quality Control Board approved Waste Discharge Permit No. 89-18 in February 1989. The permit sets forth the average monthly treatment volume of one million gallons per day (1.0 MGD) and the constituents in the discharge effluent. The permit also limits the locations for disposal of the treated effluent in the ponds and irrigation areas presently used by the City. Monitoring and reporting requirements are also described in the permit.

Operation of the Wastewater Treatment Plant and disposal facilities is currently at 90 percent capacity within the requirements of the Waste Discharge Permit. The Wastewater Treatment Plant currently has an average daily flow of approximately 0.867 MGD.

As per recommendations made within the Wastewater Capital Improvement Plan, Greenfield applied for a new Waste Discharge Permit. In May of 2002, CCRWQCB issued the City a permit to increase waste discharge to 1.5 MGD. This request was authorized on the contingency that the City makes the following modifications to its Wastewater System: installation of a 1.0 MG clarifier, adequate disposal (spray fields) and installation of a digester. Construction of these improvements is currently under way. In fall of 2005 another expansion to the Wastewater Treatment Plant was issued to increase the discharge

to 2.0 MGD. The 2005 wastewater treatment expansion project is currently under construction.

Project Site

There are currently no wastewater collection or treatment facilities serving the project site. The proposed sanitary sewer system will be designed to accommodate the project site on both sides of Highway 101. The General slope of the existing project site is to the south. The proposed project would be graded to slope from the southwest to the northeast.

LAW ENFORCEMENT SERVICES

The City of Greenfield Police Department (GPD) is located near the corner of Oak Avenue and El Camino Real. The Police Department staff currently consists of 21 members; there are 17 sworn officers (one who is a School Resource Officer), the Police Chief, a Community Service Officer who serves as a Code Enforcement Officer and Animal Control Officer, and two administrative assistants. The GPD owns 11 marked patrol cars, one marked transport van, and one marked van for volunteers, two unmarked cars and two motorcycles. Currently the Greenfield police department patrols the City limits and up to one mile outside the current City limits.

Monterey County Communications provides police, fire, and medical dispatch for nearly all cities and unincorporated areas of the county. This includes answering all emergency and non-emergency calls. The Communication Center in Salinas dispatches Greenfield Police Officers to service calls that are within the City of Greenfield limits or to calls outside of the city, at the request of the Monterey County Sheriff's Office. The City of Greenfield Police Department participates in a Mutual Aid Agreement with County of Monterey Sheriff's Department, which is responsible for patrolling areas around the Greenfield City limits. This program provides for the sharing of resources to respond to significant public safety events.

In The City's fiscal year 2004 (July 1, 2004 to July 1, 2005), the Greenfield Police Department responded to 9,384 Priority I and Priority II calls for service. Priority I calls correspond to either crime in progress or life threatening emergencies. Priority II calls are non-emergencies, but with a potential for danger or disturbance. Additionally, the police responded to 1,997 Priority III calls (routine calls with no immediate danger) and conducted 3,298 Priority IV (lower priority or self-initiated calls). Lastly, 469 "E" calls (medical emergencies and fire calls) were run.

The Police Department does not currently have a means of accurately measuring response time, but it is believed that the present level of service is adequate.

According to the California Department of Finance, the 2005 population of Greenfield was 13,316. There are approximately 1.27 officers per each 1,000 residents. The City's goal is to maintain at least 1.25 officers per 1,000 residents given the present community circumstances.

FIRE SERVICES

Existing fire protection services within the City and in the outlying rural areas are currently provided by the Greenfield Fire Protection District (GFPD), which serves a population of approximately 18,000 residents. The District currently has one station, which is located near the corner of Oak Avenue and Fourth Street. The District is currently an independent district, governed by a five-member board of directors. The district covers approximately 36 square miles. This district includes the entire City of Greenfield and extends south, approximately 1 mile south of Underwood Road, east to the Salinas River, west to the Arroyo Seco River, and north to Hudson Road, which is approximately halfway between Greenfield and Soledad.

The Greenfield Fire Protection District provides service to structural, wildland, vehicle, and miscellaneous exterior fires; vehicle accidents involving disentanglement and extrication; medical emergencies upon request by American Medical Response or the police department; and hazardous materials incidents. In addition, the GFPD conducts inspections of buildings and properties to insure fire safety; reviews new construction plans for fire code compliance; fire arson investigation; develops and delivers fire safety and burn prevention programs to school children, senior citizens, community groups, businesses and industry. The Greenfield Fire Protection District currently has two full time engineers and 14 volunteers. The district has five fire engines and one patrol car, as well as the chief vehicle.

The Greenfield Fire Protection District has a mutual aid agreement for emergency response from area fire departments and, when necessary, receives assistance from the Monterey county Fire Department, the California Department of Forestry and Fire Protection, and other community fire departments within the Salinas Valley, including Gonzales and Arroyo Seco.

The National Insurance Underwriters Association, Insurance Services Office (ISO) annually evaluates the ability of fire departments to protect commercial property within their jurisdictions. The ISO uses a "1 through 10" rating scale with "1" representing the best and "10" representing an unprotected area with poor service. In the 2002 annual evaluation, the last evaluation completed for the district, the Greenfield Volunteer Fire Department received a rating of "5" on the ISO scale. The Greenfield Fire Protection District plans to increase this rating with planned improvements. This past year the GFPD made the transition from a volunteer fire protection district to a fully staffed professional fire

protection district. The GFPD is anticipating a an National Insurance Underwriters Association, Insurance Services Office evaluation in 2006.

ELECTRIC, NATURAL GAS, TELEPHONE AND CABLE SERVICES

Pacific Gas and Electric (PG&E) provides electricity and natural gas, SBC provides telecommunications services and Charter Communications provides cable television infrastructure and service in the City of Greenfield. Electrical, natural gas and telephone distribution lines would need to be extended and/or improved to PG&E and SBC standards to serve future growth.

PUBLIC SCHOOLS

The project site would be within the jurisdictions of the Greenfield Union Elementary School District and the King City Joint Union High School District. The Greenfield Union Elementary School District spans the entire City of Greenfield and contains three elementary schools and one middle school. School district boundaries include the entire City limits and extend to include the surrounding rural areas as far west as Arroyo Seco. **Table 3.12-4** identifies location and the enrollment levels of the schools in the Greenfield Union Elementary School District.

TABLE 3.12-4
GREENFIELD UNION ELEMENTARY SCHOOL DISTRICT ENROLLMENT

School	Type	Location	Enrollment
Vista Verde	Middle (6-9)	1199 Elm Avenue	749
Oak Avenue Elem.	Elementary (K-5)	1239 Oak Avenue	709
Greenfield Elem.	Elementary (2-6)	493 El Camino Real	609
Greenfield Primary	Elementary (K-3)	801 Walnut Avenue	409
Elementary District Total			2,476

Source: City of Greenfield General Plan 2005

Each of the elementary schools was constructed to house 600 students and Vista Verde middle school was constructed to house approximately 825 students. Each elementary school is close to capacity and currently uses overflow space to accommodate enrollment. Vista Verde Middle School can accommodate an additional 75 students by utilizing overflow space and portable classrooms.

According to the Greenfield Elementary School District School Facilities Needs Analysis, the number of students expected to be generated on a per-unit basis for single-family and multi-family units is 0.558 Kindergarten through 6th grade students and 0.176 7th and 8th grade students, for a total of 0.764 elementary and middle school students per household.

The elementary and middle schools in Greenfield are currently close to capacity. School facility expansions will be required to absorb all of the projected growth. The School District has submitted plans for a new 10-acre elementary school to be located in the vicinity of 2nd Street and Apple Avenue. The planned school would support approximately 600 students.

The King City Joint Union High School District (KCJHSD) includes four high schools, two which are within the Greenfield City limits. These two high schools are primarily attended by Greenfield residents. **Table 3.12-5** identifies location and the enrollment levels of the high schools in the Greenfield within the KCJHSD.

TABLE 3.12-5
GREENFIELD HIGH SCHOOL ENROLLMENT

School	Type	Location	Enrollment
Greenfield High School	High School (9-12)	2025 El Camino Real	943
Ventana Continuation	Continuation High School (9-12)	2015 El Camino Real	49
High School District Enrollment Total (excluding King City Schools)			992

Source: City of Greenfield General Plan

The other two KCJHSD high schools are located in King City, and very few, if any, Greenfield residents attend these schools. The Greenfield High School serves the agricultural and residential areas of Greenfield, Arroyo Seco and other surrounding rural areas. Ventana High School, a continuation high school, also serves Greenfield and the proximate rural area, but provides an alternative traditional high school education. The school serves those students who are not able to function satisfactorily in a traditional comprehensive high school.

Greenfield High School opened in 1999 and currently enrolls 943 students, houses 29 classrooms, and is considered "at capacity." During the 2002-03 school year, each of these classrooms, as well as four additional portable classrooms were necessary to accommodate enrollment. Eleven additional classrooms were incorporated as part of the school design to allow the campus to accommodate up to 1,200 students. Currently, district staff is developing a Facilities Master Plan for Greenfield High School in order to ensure that it will be able to accommodate the City's anticipated growth.

Ventana High School has an enrollment of 59 students and has three classrooms The District Parenting and Pregnant Teen Program and Special Education for Independent Study are located at this site as well.

The King City Joint Union High School District estimates that each new dwelling unit will generate 0.12 students for grades 9-12.

SOLID WASTE SERVICES

The Salinas Valley Solid Waste Authority (SVSWA), is responsible for ensuring secure long-term solid waste disposal service to Greenfield and other Salinas Valley communities. SVSWA is a joint powers agency made up of the following local governments: unincorporated East Monterey County, and the cities of Gonzales, Greenfield, King City, Salinas, and Soledad. The Authority currently owns four landfills and oversees the contract operation of these facilities. The Authority is also responsible for overseeing future landfill siting or expansion to meet the area's long-term solid waste disposal needs.

Currently, Tri-Cities Disposal and Recycling, Inc. is responsible for the collection of solid waste in Greenfield. Tri-Cities Disposal is a franchise of the Monterey City Disposal Service, formed by a joint-member agreement Greenfield, Gonzales, and Soledad. Tri-Cities Disposal provides collection and processing services for residential waste including refuse, source-separated recyclables and yard waste; commercial waste including refuse, recyclables and drop box-roll-off containers; and city waste from city and public facilities.

The solid waste collected by Tri-County Disposal Service is hauled Johnson Canyon Landfill, located in Gonzales, where it is processed and stored. Salinas Valley Solid Waste Authority operates this privately owned 163-acre facility. In June 1999, the landfill was estimated to have a remaining refuse capacity of 2.9 million cubic yards. Additionally, it was projected that if current rate of service were to be maintained, that this facility would provide disposal capacity through the year 2042.

PARKS AND RECREATION

Park and recreation facilities are provided by the City of Greenfield Public Works Department, which is responsible for acquiring and developing future parks, open space areas, and trails within the Greenfield area. There are seven neighborhood parks and one regional park in the park system occupying a total of approximately 27.01 acres. City standards specify a minimum of 3.9 acres of parkland and open space per each one thousand residents, which includes parks, greenbelt, and outdoor recreational facilities.

The Greenfield General Plan indicates that the total park and open space acreage in Greenfield is 39.96 acres, far below the required area. The General Plan indicates the City clearly needs more parkland development. With the pattern of development and rate of population growth the City should not only acquire neighborhood park sites, but also seek towards the acquisition of large-scale community park sites. Existing recreation facilities suggest a strong need for more open green spaces in Greenfield. Recreational resources have been in very short supply in the City of Greenfield. An inventory of existing

recreation facilities indicates a strong need for more green spaces and physical recreation facilities in Greenfield.

The nearest park's and recreation facilities within the vicinity of the vicinity of the project site include, Tyler Park, a 0.038-acre neighborhood park located at Tyler Street and El Camino, approximately one quarter mile north of the project, the park includes open space and play structure, site; and the approximately 19 acre Patriot Park, which serves as the City's only community park, and is located at 13th and Elm Streets, approximately one mile northwest of the project site. The park includes a skate park, community/daycare center, play structure, sand box, open space, soccer fields, restrooms, baseball/softball fields, amphitheater, and off-street parking facilities.

3.12.2 REGULATORY SETTING

CITY OF GREENFIELD CODES AND ORDINANCES

Construction and maintenance of public services and utilities in the City of Greenfield is enabled and regulated by the Greenfield Municipal Code and General Plan.

CITY OF GREENFIELD GENERAL PLAN

Upon approval of the South End project the site will be located within the planning area established by the *City of Greenfield General Plan*, therefore needs top be consistent with the goals and policies contained in the *City of Greenfield General Plan* and the *General Plan EIR*. The following goals and policies are relevant in guiding consideration of this project:

Policy 7.2.2: Develop and maintain a park system that provides the minimum of 3.9 acres of parkland per 1,000 residents.

Policy 7.2.7: Locate neighborhood parks no more than ¼ mile walking distance for most residents. Attempt to avoid major street crossing for most residents to access a neighborhood park.

Policy 7.2.9: Encourage developers to dedicate land as opposed to paying in-lieu park fees.

Policy 7.2.10: Maintain and improve existing parks and develop new neighborhood and community parks in new residential neighborhoods as growth occurs.

Policy 7.2.12 Consider multiple uses for open space land (i.e. land use buffer zones and green-ways for trails and linear parks, flood control basins for basin and park joint use, and school sites for neighborhood/community park joint use).

Policy 7.2.19 New development shall dedicate parkland and/or pay in lieu fees, as well as impact fees sufficient to meet the added demand for park facilities. Buffer zones and drainage areas that are also used for recreation uses shall not count towards a development's required park dedication, but can count toward open space requirements.

Policy 7.2.20 Subdivisions with 50 or more residential units shall be required to incorporate improved parkland with the subdivision.

Program 7.2.A
Apply the following guidelines to achieve a ratio of 3.9 acres of park per 1,000 residents projected to reside in Greenfield:

i. Provide a minimum of 2 acres of community parks, 1.5 acres of neighborhood parks, and 0.4 acre of open space and greenbelt per 1,000 residents.

ii. Include portions of developer dedicated community accessible school sites as contributing to park obligations, if appropriate, and based on the location and availability to the community.

iii. Include privately owned and maintained areas such as community accessible mini-parks, neighborhood greens or recreation centers as contributing to park obligations, if appropriate, based on location, purpose, nature of such areas, and the level of public access.

iv. The developer shall dedicate and improve parks in residential developments, subject to City approval. All projects with 50 or more units shall include improved parkland within project boundaries.

Policy 4.4.2 New development shall pay its fair share of costs for new fire protection facilities and services.

Program 4.4.D
The fire protection district shall be forwarded all plans for review that involves development projects and submit conditions of approval for consideration to determine whether: 1) there is adequate water supply for fire fighting; 2) road widths, road grades, and turnaround radii are adequate for emergency equipment; and 3) structures are built to the standards of the California Building Code, the Uniform Fire Code, other State regulations, and local ordinances regarding the use of fire-retardant materials and detection, warning, and extinguishment devices.

Policy 4.5.6: Impact fees shall be calculated to ensure that each dwelling unit, business, and vacant parcel pays a fair share of the cost of police services.

Policy 4.6.2: Require new residential development, General Plan Amendments, or rezoning to residential use to mitigate impacts on public school facilities, unless the City Council makes a finding of overriding considerations.

Policy 4.9.1: Promote the reduction of the amount of waste disposed of in landfills by: 1) reducing the amount of solid waste generated within the city (waste reduction); 2) reusing as much of the solid waste as possible (recycling); 3) utilizing the energy and nutrient value of the solid waste (waste to energy and composting); and 4) properly disposing of the remaining solid waste (landfill disposal).

Policy 4.9.5: Encourage solid waste resource recovery (including recycling, composting, and waste to energy) so as to extend the life of sanitary landfills, reduce the environmental impact of solid waste disposal, and to make use of a valuable resource, provided that specific resource recovery programs are economically and environmentally feasible.

Policy 4.10.1: Manage future development so that facilities are available for proper water supply.

Policy 4.10.3: New development shall pay the costs related to the need for increased water system capacity.

> Program 4.10.A
> Prior to project approval, new development shall demonstrate that adequate water quantity and quality can be provided. The City shall determine whether 1) capacity exists within the water system if a development project is built within a set period of time, or 2) capacity shall be provided by a funded program or other mechanism. This finding will be based on information furnished or made available to the City from consultations with the Public Works Department, the applicant, or other sources.

Policy 4.11.1: Coordinate future development with the capacity of the Greenfield Wastewater Treatment Plant to ensure facilities are available for proper wastewater disposal.

> Program 4.11.A
> New development shall pay its fair share of the cost of on- and off-site sewer infrastructure. This shall include installation of necessary public facilities, payment of impact fees, and participation in a Capital Improvement Program.

SENATE BILLS 610 AND 221

Senate Bills 610 (Chapter 643, Statutes of 2001) and Senate Bill 221 (Chapter 642, Statutes of 2001) amended state law, effective January 1, 2002, in order to improve the link between information on water supply availability and certain land use decisions made by

cities and counties. Senate Bill 610 and Senate Bill 221 are companion measures, which seek to promote more collaborative planning between local water suppliers and cities and counties. Both statutes require detailed information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects and that the information is 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. Under Senate Bill 610, water assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code 10912 [a]) subject to the California Environmental Quality Act. Under Senate Bill 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply.

If coordinated and comprehensive water supply planning is underway at the time that the Senate Bill 610-water assessment is prepared, compliance with Senate Bill 221 will be greatly facilitated. Senate Bill 221 is intended as a 'fail safe' mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision before construction begins.

Not every project that is subject to the requirements of SB 610 would also require the mandatory water verification of Senate Bill 221 (e.g. if there is no subdivision map approval). Conversely, not every project that is subject to the requirements of Senate Bill 221 would also require the environmental document to contain Senate Bill 610 water supply assessments. Projects approved before January 1, 2002 were not subject to the requirements of Senate Bill 610 or Senate Bill 221; however, some projects may have been subject to the requirement to prepare a water supply assessment as set forth in Senate Bill 901 of 1995 (Chapter 881, Statues of 1995) (California Department of Water Resources 2003).

SCHOOL IMPACT FEES

State Education Code

Section 17620 of the State Education Code authorizes the governing board of any school district to levy a special fee, charge, dedication, or other requirement against any construction within the boundaries of the school district, for the purpose of funding the construction or reconstruction of school facilities, subject to the limitations set forth in Chapter 4.9 of Division 1 of Title 7 of the Government Code. The special fee, charge, dedication or other requirement may be applied to construction as follows:

- New commercial and industrial construction. The chargeable covered and enclosed space of commercial or industrial construction shall not be deemed to include the square footage of any structure existing on the site of that construction as of the date the first building permit is issued for any portion of that construction.

- New residential construction.

- To other residential improvements, additions or modifications in excess of 500 square feet, or to the location, installation or occupancy of manufactured or mobile homes.

CALIFORNIA INTEGRATED WASTE MANAGEMENT ACT

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties are required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995 and 50 percent by January 1, 2000.

The Act further requires every city and county to prepare two documents to demonstrate how the mandated rates of diversion will be achieved. The first document is the Source Reduction and Recycling (SRR) Element describing the chief source of the jurisdiction's waste, the existing diversion programs, and the current rates of waste diversion and new or expanded diversion programs intended to implement the Act's mandate. The second document is the Household Hazardous Waste (HHW) Element, which describes what each jurisdiction must do to ensure that household hazardous wastes are not mixed with regular non-hazardous solid waste and deposited at a landfill.

3.12.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines and previous standards used by the City. For the purposes of this EIR, impacts are considered significant if the following could result from implementation of the proposed project:

1. Exceed wastewater treatment capacity requirements of the Regional Water Quality Control Board.

2. Require substantial expansion or alteration of the City's wastewater treatment or collection facilities;

3. Result in a substantial increase in wastewater flows over current conditions and capacities;

4. A substantial increase in demand for an adequate water supply over the existing condition;

5. Create a demand for solid waste services and generate solid waste in an amount greater than the ability of landfill facilities to accommodate such waste;

6. Adversely impact or cause the need for a new or physically altered government facility, the construction of which could cause significant physical or environmental impacts, in order to maintain acceptable law enforcement or fire service levels;

7. An inability to provide an adequate water supply, including facilities for treatment, storage and distribution;

8. Substantial increases in demand necessitating new or extended electric, natural gas, telephone or cable services in excess of the ability to provide service, in a manner that would create physical environmental effects;

9. Result in additional students in numbers great enough to create physical overcrowding or other physical strain on existing school facilities;

10. Increases demand for park and recreational services such that substantial physical deterioration of the park or facility would occur or be accelerated; and/or

11. Contributes significantly to any cumulative public service or utility impact.

METHODOLOGY

The analysis of potential public service and utility impacts is based upon review of the City of Greenfield *Wastewater and Water System Capital Improvement Plan Updates*, information updates supplied by City service providers and other technical documents and environmental impact reports, and the Engineering Feasibility Study completed for the project site by C & D Engineers. Additional analysis is based upon letters received from Responsible Agencies during the Notice of Preparation review period.

PROJECT IMPACTS AND MITIGATION MEASURES

Potable Water Demand

Impact 3.12-1 The project would increase demand for water resources an average of 418,104 gallons per day (gpd), or 468.33 acre-feet annually (AFA). This impact is considered **less than significant**.

The proposed project is an amendment to the City's SOI and the ultimate annexation of 267 acres of land into the City of Greenfield for residential, highway commercial, and heavy industrial development. Approximately 293 dwelling units single family units, 60 acres of heavy industrial uses and 107 acres of highway commercial will be constructed with full build-out of the project. The proposed project will also include approximately 50 acres designated for an agricultural easement, located on the eastern portion of APN 221-011-017.

Assuming a potable water demand of 3,332 gpd/acre for single-family residential uses, 1,000 gpd/acre for highway commercial uses, and 2,500 gpd/acre for heavy industrial, the project is expected to generate a need for 418,104 gpd, which is the equivalent of 468.33 AFA. The current total potable water demand in Greenfield is approximately 4.96 acre-feet per day or 1,811 AFA. The annual project demand would be approximately 22 percent of the overall current annual demand in Greenfield and would increase the citywide usage to approximately 2,179 AFA. The City of Greenfield has the capacity to serve 17.8 acre-feet per day, which equates to a total annual capacity of 6,500 AFA. Existing wells and storage reservoirs will not be impacted.

In addition, according to the *California Water Plan Update Draft (2005)*, an average acre of irrigated agricultural use land consumes 1.9 AFA per acre, the equivalent of 507 AFA for the entire 267-acre site. This is more than the expected water usage upon full build-out of the project site. Existing agricultural uses do not use the City's municipal water infrastructure; however groundwater is drawn for irrigation purposes through private on-site wells, from the same sub-basin of the aquifer.

Based on the City's existing municipal supplies and reduction in agricultural uses, impacts to groundwater resources or the existing supply associated with the full build-out of the South End SOI project site is expected to be **less than significant**. No mitigation is required.

Potable Water Delivery

Impact 3.12-2 The project would require extension of the existing potable water delivery system to provide water to the project site. This is a **potentially significant** impact.

There are currently no water supply lines serving the proposed project area. The City maintains an existing 12-inch potable water line in El Camino Real that currently terminates at the Greenfield High School. For the residential portion of the project, the 12-inch line would be extended about 1,000 feet from its present terminus to the entrance of the proposed subdivision. A looped eight inch main would be needed to serve the project. Fire hydrants would be spaced as approved by the Fire District at about 400 –500 foot spacing.

As currently planned the 12-inch water line would be extended from the proposed residential subdivison east under Highway 101 along selected streets to Elm Avenue where it will connect to a 12-inch water main that is part of the City's master water plan.

The water line installation across Highway 101 right of way would need to be installed by directional drilling. The Elm Avenue 12-inch main is included in the City's impact fee program. The location and design details of the off site connection would be determined at the time of project development. The construction of all improvements may have temporary construction related impacts.

The onsite improvements generally include a system of looped eight-inch pipelines with fire hydrants and service laterals.

Mitigation Measure

MM 3.12-2 Prior to approval of the first subsequent tentative or subdivision map associated with project development, the applicant shall provide water system infrastructure plans for the entire project area to the City of Greenfield for review an approval. Water system plans shall provide detail regarding location, connections, pressure and the phased extension of the water system. All water system plans shall be developed in coordination with the City. The applicant will be responsible for construction of system extension, and/ or payment of impact fees as determined by the City to fund the extension.

Construction of these improvements would result in typical construction impacts as part of the development of the proposed project. Those impacts would be resolved through mitigation of other construction impacts and will be subject to compliance with City regulations.

Implementation of the above mitigation measure would reduce potable water delivery impacts to a **less than significant** level, by requiring water system infrastructure plans for the entire project area in coordination with the City.

Wastewater Collection and Treatment

Impact 3.12-3 The project would require extension of the existing wastewater system and result in additional demands upon the existing treatment plant. This is considered a **potentially significant** impact.

The proposed project would include the future development of approximately 267 acres of land to include up to 329 residential units, 60 Acres of heavy industrial uses, 107 acre of highway commercial development, and the existing 3.0 acre LA Hearne Company Parcel, which will be designated as a Highway Commercial use, but will not be physically altered as part of this project. **Table 3.12-6** shows the wastewater generation rates established by the City of Greenfield's *Wastewater System Capital Improvement Plan Update* (2004) for the proposed use and the projected wastewater generation for the proposed project.

TABLE 3.12-6
WASTEWATER GENERATION RATES

Land Use	Rate	Units/Acres	Project Generation**
Residential	400 GPD*/dwelling unit	329	131,600 GPD
Highway Commercial	1,000 GPD/acre	110	110,000 GPD
Heavy Industrial	1000 GPD/acre	60	60,000
		Total	301,600 GPD (0.301 MGD***)

* GPD: Gallons per day. ** At buildout. ***MGD: Million gallons per day.

The City of Greenfield expanded its treatment facility in 2003 to accommodate projected increases in permitted treatment quantity. According to the *Greenfield Wastewater System Capital Improvement Plan Update* (2004), the existing average treatment volume of the current wastewater system is 0.867 million gallons per day (MGD).

According to the *City of Greenfield Wastewater System Capital Improvement Plan Update* (2005), the maximum average treatment volume allowed under Waste Discharge Order No. R3-2002-0062 is 1.0 MGD; in addition, a spray irrigation system with an estimated capacity of 1.0 MGD has recently been added to the disposal facilities. According to the City, 1.8 MGD is available per a permit issued by the RWQCB. Improvements to upgrade the plan are currently underway and are anticipated for completion by January 2007. In addition, the City stated that it is planning on increasing treatment capacity to 3.0 MGD in the future.

Development of the proposed project would increase the City's wastewater flows from 0.867 MGD to 1.168 MGD, resulting in an excess permitted capacity of 0.301 MGD. On an individual project basis the project site would not exceed or significantly impact the

City's Wastewater Treatment Plant. With the 1.8 MGD available, per a permit issued by the RWQCB, the projected flows from the project would be within permitted limits. Therefore, the project is considered to be **less than significant.**

Collection System

The City maintains an existing 10-inch sewer line in El Camino Real that connects to a 12-inch line in Elm Avenue and terminates at the Greenfield High School. The City also maintains an eight-inch line in Elm Avenue that runs from Fourth Street to Second Street. There are currently no wastewater collection lines within or servicing the project area. In order to adequately service the project site, the existing lines will need to be extended to the project site.

West of Highway 101 the waste water system would be designed for gravity flow toward El Camino Real where a pump station would be located. If gravity flow were no possible, the pump station would be located within the project, with a force main that would extend to the existing pump station at the intersection of el Camino Real and Tyler Avenue. From the entrance to the proposed subdivision the force main would be extended about 1,300 feet along El Camino Real to the existing pump station at Tyler Avenue.

According to the City of Greenfield Public Works director the existing Tyler Avenue pump station may require new impellers for the pumps and/or an upgrading of the electrical system to increase the capacity of the pump station.

East of Highway 101, the general slope of the project is from the southwest to the northeast. The sanitary sewer will follow the slope of the project grading. A pump station will be required onsite or offsite along Elm Avenue probably near the Second Street intersection. The force main from the pump station would extend to the intersection of Second Street and Apple Avenue where it would connect to an existing 12-inch sanitary sewer line. As the proposed project will include a mixture of industrial and highway commercial uses, the industrial wastewater discharges may be required to provide onsite pretreatment depending upon the type of industrial wastewater produced.

The lack of existing wastewater lines to serve buildout of the proposed project area is considered a **potentially significant** impact, requiring the following measure:

Mitigation Measure

MM 3.12-3 The applicant for the first development proposed within the annexation area shall be required to design and construct wastewater collection system improvements to adequately serve the entire annexation area, in accordance with City specifications for such improvements. These improvements shall be shown on all subdivision maps and development

plans for the annexation area and shall be submitted to the City Engineer for review and approval.

Construction of these improvements would result in typical construction impacts as part of the development of the proposed project. Those impacts would be resolved through mitigation of other construction impacts and will be subject to compliance with City regulations.

Implementation of the above mitigation measure would reduce impacts to the wastewater collection system to a **less than significant** level by requiring the design and construction of all improvements, prior to issuance of building permits, necessary to service the entire annexation area.

Law Enforcement Services

Impact 3.12-4 The conversion of the project site from agricultural to urban use will generate additional demand for law enforcement services. This is considered a **less than significant** impact.

The proposed project site lies within the jurisdiction of the Greenfield Police Department. The police station is located at the intersection of El Camino Real and Oak Avenue, approximately 3/4 mile from the project area. The proposed project is anticipated to generate up to 329 dwelling units (assuming maximum allowable density). Assuming a population generation rate of approximately 4.0 persons per household (*Greenfield General Plan* 2005), full build out of the residential component of the proposed project would generate approximately 1,316 people. This increase will place additional demand on the City's Police Department for services, as the number of service calls would increase. Types of crime anticipated include domestic disturbances and residential and automobile burglaries, based upon the number and type of calls logged in residential areas. To maintain the a level of service of 1.25 officers per 1,000 residents, the City would need to one more officer to accommodate the projected population increase. In addition to the population increase, extra demand may be placed on the City's Police Department with project buildout of the highway commercial and heavy industrial development uses.

The cost of providing police services to the project area is funded through the City's General Fund, which relies on property taxes, sales taxes, and other annual revenues. Development of the project would require the payment of fair share financing as described in the City of Greenfield General Plan to offset additional police protection services that will be needed. The project Applicant's would be required to pay a Police Impact Fee to assist in covering the costs of additional police coverage. Payment of this fee would ensure that police services are maintained at an acceptable level. Therefore the impact of the annexation area on police services is considered **less than significant**

Fire Services

Impact 3.12-5 The conversion of the project site from agricultural to urban residential use will generate additional demand for fire services. This is considered a **lees than significant** impact.

The proposed project is located adjacent to existing developments serviced by the Greenfield Fire Protection District and is anticipated to generate up to 329 new dwelling units and accommodate approximately 1,316 new residents upon full build-out. The nearest fire station is located at the intersection of Oak Avenue and Fourth Street, approximately 3/4 mile from the project area. Emergency response to the project site is dependent upon adequate emergency access and water flows for fire protection services. The fire station has direct access to the project area via El Camino Real and Highway 101. The City of Greenfield General Plan indicates that buildout of the Planning Area would warrant the development of a Greenfield Fire Protection District Master Plan that includes a Capital Improvement Plan to document future fire needs in the City and identify sufficient revenues to implement improvements. Upon annexation of the proposed project site will be included into the City of Greenfield planning Area. Project developers would be required to extend water mains into the project area and pay fire impact fees charged by the Greenfield Fire Protection District.

Also, all development in the project area would be required to implement current fire safety codes in compliance with the California Building Code, Uniform Fire Code and obtain approval from the City of Greenfield for design features such as project access and turning radii, road grades and road widths adequate for emergency equipment access. Therefore these impacts are **less than significant**.

Electric, Natural Gas, Telephone and Cable Services

Impact 3.12-6 The project would increase the demand for electric, natural gas, telephone and cable services. This impact is considered **potentially significant**.

As a practice, Pacific Gas & Electric and SBC review development applications to identify the necessary utility easements for the adequate provision of service. Future development of the project site will require the extension of services to the project site. There is an existing overhead telephone line along El Camino Real. Utilities for the proposed subdivision will probably be extended from the present terminus along the Greenfield High School frontage. East of Highway 101 the only overhead utilities are along Elm Avenue. These include a PG&E 60 kW electrical line along the south side of Elm Avenue, which will require location in conjunction with the widening of Elm Avenue. This will be relocated as an overhead facility the same as the recent relocation along Second Street between Walnut and Oak Avenues. All other new electric, telephone and cable television

lines, along with the natural gas distribution system will be installed underground in joint utility trenches.

Mitigation Measure

MM 3.12-6 Prior to Final Map approval, the project applicant shall obtain and submit a "will-serve" letter from PG&E.

Implementation of the above mitigation measure will reduce potentially significant impacts related to utility service to a **less than significant** level by requiring review and approval of development plans and issuance of a "will-serve" letter from PG&E.

Schools

Impact 3.12-7 Development of the project would increase the demand for primary and secondary educational services within Greenfield. This is considered a **less than significant** impact.

The annexation area would be within the jurisdiction of the Greenfield Union Elementary School District and the King City Joint Union High School District. According to student generation rate per residential unit found in the City of Greenfield General Plan, the proposed project is anticipated to generate approximately 184 elementary school students (assuming 0.558 students/unit), 58 middle school students (assuming .176 students/unit) and 39 high school students (assuming 0.12 students/unit) upon build-out, totaling 281 students, which would create additional demand for school services.

State law prohibits a local agency from either denying approval of a land use project because of inadequate school facilities or imposing school impact measures other than designated fees. The City of Greenfield General Plan has indicated that in order to support the buildout of the General Plan area, three new Elementary Schools and one Middle School would need to be developed. In addition, the existing Greenfield High School would need to be expanded. Upon annexation the proposed project site will be included into the City of Greenfield Planning Area and be subject to local taxes.

All development within the proposed project would be subject to a School Impact Fee as calculated by the Districts, per statute, and due prior to issuance of occupancy permits. The School Impact Fees from the project site would contribute to development, expansion and modifications to existing and proposed public school facilities. Therefore, this is a **less than significant** impact.

Solid Waste Services

Impact 3.12-8 The proposed project would eventually generate approximately 3,680 pounds/day of solid waste. This is considered a **less than significant** impact.

The Johnson Canyon Landfill, a privately owned facility covering 163 acres operated by Salinas Valley Solid Waste Authority, serves Greenfield. According to City engineering staff, the landfill facility had a remaining refuse capacity of 2.9 million tons as of June 1999 and is expected to provide capacity to the Salinas Valley through 2042. Assuming solid waste generation factors of 8 pounds per residential unit/day and five pounds per 1,000 square feet/day for commercial and six pounds per 1,000 square feet/day industrial uses, the project would generate approximately 12,073 pounds/day of solid waste, which is the equivalent of 2,200 tons/year. The maximum project solid waste generation (2,200 tons/year), extrapolated over the remaining life of the landfill, would use less than five percent of the remaining landfill capacity. The City of Greenfield also has a successful recycling program in place to reduce the volume of refuse deposited in the landfill. Therefore, this impact is considered **less than significant**.

Parks and Recreation

Impact 3.12-9 Development of the project would generate up to 1,316 new residents, increasing the need or demand for new parks and recreational activities. This is a **potentially significant** impact.

Development of the proposed annexation area will generate up to 329 dwelling units and 1,316 new residents in the City of Greenfield. This increase is expected to generate demand for additional park space. Assuming a park standard of 3.39 acres per each one thousand residents, the project will generate a demand for approximately 4.46 acres of new parkland.

The 2005 General Plan determined that there was a lack of adequate parkland space within Greenfield and that the needs of the City were not being met at that time. According to the 2005 General Plan, recreational resources have also been in short at the time of the assessment. The City of Greenfield currently has seven neighborhood parks and one regional park within its limits. Although the applicant would not be responsible for mitigating existing parkland deficiencies as identified in previously adopted documents, the applicant will be required to contribute fees and parkland through the following mitigation measure:

Mitigation Measure

MM 3.12-9 In accordance with Policy 7.7.2 of the Greenfield General Plan, the project Applicants' within the proposed annexation area shall cumulatively dedicate at least 4.46 acres for improved parks and recreation purposes, and shall contribute fees in-lieu of dedicated open space, in an amount determined as appropriate by the City.

Implementation of the above mitigation measure would reduce park and recreation impacts to a **less than significant** level by requiring adequate park and recreation facilities to serve the anticipated community at full buildout.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Groundwater Usage and Distribution

Impact 3.12-10 The cumulative increase in potable water demand, from groundwater sources, for all reasonably foreseeable projects is considered a **less than significant** impact.

Implementation of the proposed project, in combination with future area growth within the City of Greenfield Planning Area would increase the cumulative demand for water supply. The City of Greenfield General Plan (2005) indicated that buildout of the General Plan Area would result in an increase in annual water demand by 3,714 AFA, from 1,811 AFA to 5,525 AFA. The proposed project will increase potable water demand by approximately 468 AFA. Buildout of the General Plan Area plus the proposed project would result in a total potable water demand for the City of Greenfield of approximately 5,993 AFA. The General Plan also indicated that the City has the capacity to serve approximately 6,500 AFA with expansion of the system. Project Applicants would also be required to mitigate cumulative water system impacts through contribution of applicable impact fees. With this available supply, and the applicable impact fees, the increase in potable water demand will be **less than significant.**

Wastewater Treatment Facility

Impact 3.12-11 The cumulative increase in demand for wastewater treatment services would be 287,200 (gpd). This impact is considered **less than significant**.

With regard to cumulative impacts to the wastewater system, implementation of the proposed project in combination with future area growth and recently approved projects would increase the cumulative demand for wastewater treatment services and facilities beyond wastewater discharge permitted capacity. The City's *Wastewater System Capital Improvement Plan Update* (2004) indicates that future growth (buildout of the City of

Greenfield planning area) would result in Greenfield's wastewater capacity rising from about 0.9 MGD to 3.3 MGD. This increase would require wastewater treatment plant expansion to serve a capacity of approximately 3.5 MGD. Upon annexation of the proposed project site, the project will be included as part of the future growth area of the City and therefore would contribute to the increase in volume and usage of the wastewater treatment plant. Project Applicants would be required to mitigate cumulative water system impacts through contribution of applicable sewer impact fees. Individual developments within the annexation area would also be responsible for installing wastewater infrastructure to serve specific properties. Payment of applicable City fees for the wastewater system expansion as well as installation of adequate sewer lines would result in a **less than significant** impact.

REFERENCES/DOCUMENTATION

City of Greenfield. *City of Greenfield General Plan*. October 2005.

City of Greenfield. *City of Greenfield Zoning Ordinance*. 1981 as updated.

City of Greenfield. W*astewater System Capital Improvement Plan Update*. 2004.

City of Greenfield. *Water System Capital Improvement Plan Update*. 2004.

County of Monterey. *Monterey County General Plan*. 1982.

County of Monterey. *Central Salinas Valley Area Plan*. 1987.

Monterey County Water Resources Agency. *Salinas Valley Water Project Draft Environmental Impact Report / Environmental Impact Statement*. June 2001.

Creegan and D'Angello Consulting Civil and Structural Engineers. *Draft Engineering Feasibility Study*. December 9, 2005.

CA State Education Code. http://www.leginfo.ca.gov/calaw.html. December 2005

CA Integrated Waste Management Board. *Estimated Solid Waste Generation Rates*. http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/. February 2006

City of Greenfield. *Water System Expansion Initial Study / Mitigated Negative Declaration*. 2005.

City of Greenfield. *Wastewater System Expansion Initial Study / Mitigated Negative Declaration*. 2005.

Black, Art. Carmel Fire Protection Associates. City of Greenfield Fire Protection District. Personal Communication with William Heppler, PMC. February 22, 2006.

Grebmeier, Joe. Police Chief. City of Greenfield Police Department. Personal Communication with William Heppler, PMC. February 21, 2006.

Gunn, Dianna. Monterey County Emergency Communications. Personal Communication with William Heppler, PMC. February 23, 2006.

4.0 Alternatives to the Project

4.1 GENERAL CEQA REQUIREMENTS

CEQA requires that a reasonable range of alternatives to the proposed project be described and considered within an EIR. The alternatives considered should represent scenarios that could feasibly attain most of the basic objectives of the project, but will avoid or substantially lessen any of the significant environmental effects. The purpose of this process is to provide decision makers and the public with a discussion of viable development options, and to document that other options to the proposal were considered within the application process (CEQA Guidelines, §15126.6).

CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Where a lead agency has determined that, even after the adoption of all feasible mitigation measures, a project as proposed will still cause significant environmental effects that cannot be substantially lessened or avoided, the agency, prior to approving the project as mitigated, must first determine whether, with respect to such impacts, there remain any project alternatives that are both environmentally superior and feasible within the meaning of CEQA.

CEQA provides the following guidelines for discussing project alternatives:

1. An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation (§15126.6(a)).

2. An EIR is not required to consider alternatives which are infeasible (§15126.6(a)).

3. The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project (§15126.6(b)).

4. The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects (§15126.6(c)).

5. The EIR should briefly describe the rationale for selecting the alternatives to be discussed (§15126.6(c)).

6. The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project (§15126.6(d)).

4.2 RELATIONSHIP TO PROJECT OBJECTIVES

The following is a summary of the primary objectives of the South End SOI Project, as stated by the project applicant and the City of Greenfield. The objectives provide an important benchmark in conducting the comparative alternatives analysis and the feasibility of each. As discussed previously, an alternative is only meaningful for consideration if it can meet the basic objectives of the project as proposed. Project objectives include the following:

- Annexation into the City of Greenfield, SOI Amendment, General Plan Amendment and pre-zoning of approximately 267 acres, as envisioned by the City of Greenfield General Plan and in accordance with LAFCO policies;
- Establish job-generating land uses in the southern portion of the City while avoiding areas of highest quality farmland;
- To establish the land use, environmental and processing framework for the planned development of residential uses, highway commercial uses and heavy industrial uses;
- To create a single-family residential neighborhood that would buffer the existing schools in the southern portion of the City from agricultural uses.
- To create a well designed, functional, revenue generating highway commercial travel center with a range of traveler-serving uses; and
- To promote a better jobs / housing balance within the City of Greenfield and Monterey County;

In addition, it is the objective of the City of Greenfield to facilitate planned development and community growth in accordance with the following:

- Contribute to the enhancement of the southern gateway entrance into the City of Greenfield;
- Enhance the character of the southern portion of the City by providing a transition between the surrounding fields and vineyards and the City;
- To plan for future urban growth in a manner consistent with the existing and updated General Plan and Zoning Code; and
- To be compatible with surrounding land uses.

4.3 PROJECT ALTERNATIVES

As identified within various sections of this EIR, the project would result in significant environmental impacts. However, the majority of impacts identified can be mitigated to a less than significant level with the adoption of mitigation measures as specified within this DEIR. Notwithstanding, this alternatives discussion briefly identifies and examines a range of alternatives as developed with City staff:

- Alternative 1 – "No Project" Alternative (No Development)
- Alternative 2 – "No Residential Development" Alternative
- Alternative 3 – "Original SOI Alternative"

Environmental impacts associated with each of the three alternatives are compared with impacts resulting from the proposed project. The impact level of the alternative as compared to the project (less, similar or greater) is noted in parentheses at the beginning of each comparison. **Table 4-1** at the conclusion of the Section provides a summary. This Section also includes identification of the "environmentally superior" alternative.

ALTERNATIVES ANALYSIS

ALTERNATIVE 1 – "NO PROJECT" (NO DEVELOPMENT)

CEQA Guidelines Section 15126.6(e)(3) requires that a "No Project" alternative be evaluated as part of an EIR, proceeding along one of two lines: the project site remaining in its existing undeveloped state; or development of the project site under existing underlying land use designations. The "No Development" Alternative in this case considers the comparative environmental effects of not approving the proposed project (and all related boundary adjustments), with the site remaining in its current agricultural state. All underlying land uses are agriculture and under County jurisdiction; as such, the project site would not be eligible for any significant development in the foreseeable future.

Comparative Analysis

3.1 Aesthetics and Visual Resources (less): No potential impacts to visual resources would occur, and views of distant mountain ranges would be preserved if the project site were to remain predominately in agricultural production. The existing rural character would continue unchanged under a no development scenario; however, the site is not located in a visually sensitive area, nor is it subject to policies designed to protect scenic resources. Overall, the visual and aesthetic impacts associated with the project would not occur.

3.2 Agricultural Resources (less): Continuing the present use of the site would eliminate the need for the SOI amendment, GPA and annexation. The "No Development" alternative

would also avoid the significant and unavoidable loss of Prime Farmland. Impacts resulting from the proximity of residential development and agricultural uses would not occur under this alternative. The Williamson Act Exchange Agreement would not be required, and all land currently under Williamson Act would remain in place.

3.3 Air Quality (less): The potentially significant short-term air quality impacts that would result from construction allowed by the project, including dust, mud and debris generated by construction activity, exposed or disturbed soil surfaces and stockpiles of materials, would not occur under this alternative. Impacts from planned industrial uses would not occur. The "No Development" alternative would also eliminate the significant and unavoidable impact of long-term regional emissions from the project, and potential toxic air contaminants. The continual use of tilling, discing and other use of agricultural equipment as part of the cultivation of crops results in the generation of fine particulate matter and reduced air quality in the project vicinity. However, compared to the significant effects of the project, the No Development alternative would result in a lesser degree of impact.

3.4 Biological Resources (less): Potentially significant impacts to various special status wildlife species would be less under this scenario, as the site would not be subject to site disturbance or construction/demolition activities. Although all biological impacts have been reduced to a less than significant level through the application of mitigation measures, under the "No Project" alternative, no potential impacts would occur and no mitigation would be required.

3.5 Cultural Resources (less): The potentially significant impacts to pre-historic, historic, or archaeological resources resulting from eventual site construction would not occur under this alternative, on-site conditions would remain unchanged.

3.6 Geology, Soils & Geologic Hazards (less): The potentially significant impacts relating to ground shaking, earthquake-induced settlement or adverse soil characteristics would not result with implementation of this alternative. Exposure of persons to seismic events would not occur under this alternative.

3.7 Hazards / Risk of Upset (similar): The project site has a history of agricultural use and warrants additional soil testing for possible contaminants. Continuing use of the site as undeveloped agricultural land would prevent the public or new urban uses from being introduced to site hazards. This alternative would also avoid or exposure to new hazardous materials from future commercial or heavy industrial uses. However, this alternative would also remove the incentive to prepare the site for urban use. Considering there have been no acute hazards recognized thus far, impacts with or without the project would be similar.

3.8 Drainage and Water Quality (less): The potential for increase in surface water runoff due to impervious surfaces would not occur under this scenario. The generation urban non-point contaminants would also not occur under the "No Development" scenario.

3.9 Land Use (less): Continuing the current use of the site would eliminate the need for the SOI amendment, General Plan Amendment and annexation. The "No Development" alternative would also eliminate the conflicts of the proposed land uses due the proximity of residential, development to existing agriculture that would not occur under this alternative nor would impacts result from land use compatibility issues internal to the project, proximity of industrial and commercial uses to residential uses.

3.10 Noise (less): The potentially significant short-term impact of noise generated by eventual construction activities and the ongoing impacts of noise generated by residential traffic, the planned highway commercial and heavy industrial uses would not occur under this alternative. The "No Development" alternative would also eliminate the potentially significant exterior noise impact on the proposed residential dwelling units.

3.11 Traffic and Circulation (less): The potentially significant impacts of increased traffic within the vicinity of the project would not occur under this alternative. The "No Development" alternative would eliminate the increase in deterioration in existing delays and levels of service of existing intersections from the proposed project. No new interchange would be needed in the General Plan Buildout scenario.

3.12 Public Services and Utilities (less): Neither project-specific groundwater impacts nor the project's contribution to cumulative groundwater impacts would occur with a "No Development" alternative. This alternative would eliminate the projects increased demand on the City's water supply. The potential impacts to water and sewer services, solid waste collection, law enforcement and fire services, available park space, schools and utilities would not occur under a "No Development" alternative as there would be no increased demand for these services.

ALTERNATIVE 2 – NO RESIDENTIAL DEVELOPMENT

This alternative assumes a reduction in the overall size of the proposed project by eliminating the 47 acres (329 units) of low density residential on the west side of the highway (Scheid West parcel). The Sphere of Influence line west of Highway 101 would remain unchanged as shown in the City's adopted General Plan. Like the proposed project, as mitigated, this alternative assumes buildout of the Highway Commercial and Heavy Industrial portion of the project in phases. The intent of this alternative is to reduce significant impacts associated with the project by removing potentially sensitive receptors (new residences).

Comparative Analysis

3.1 Aesthetics and Visual Resources (similar): Potentially significant impacts associated with aesthetics and visual character, and excess light and glare may be reduced under this alternative, but only marginally. The major visual features of the project are associated with the highway commercial development, which will remain unchanged by this alternative..

3.2 Agricultural resources (less): Compared to the proposed project, this alternative would convert 46 fewer acres of land that is currently in active agriculture.

3.3 Air Quality (less): Most of the potentially significant short-term air quality impacts that would result from the construction of the project would still occur under this alternative, as the majority of the project would still be constructed. However, the alternative would result in fewer vehicle trips (from elimination of over 300 homes), and therefore would have fewer vehicle emissions overall. The elimination of housing also limits the exposure of new development from adjacent sources of pollutants.

3.4 Biology (less): Potentially significant impacts to potential wildlife species and habitats would still exist under this alternative and the same mitigation strategies would apply; but the overall area of potential impact would be reduced by 46 acres.

3.5 Cultural Resources (similar): No significant impacts to historic, cultural or archaeological resources are expected to occur under this alternative or the project, other than the unlikely, but possible, discovery of buried resources during construction. Based on the site conditions and the archaeological findings, the impact potential with or without this 46 acres is essentially the same.

3.6 Geology, Soils & Geologic Hazards (less): Decreased building area under this alternative would reduce the potentially significant impacts from exposure of people to seismic hazards, due to the elimination of the residential dwelling units from the project.

3.7 Hazards / Risk of Upset (similar): While a reduced number of people would occupy the site under this alternative, the existing identified hazards would pose risks similar to the proposed project. Similar mitigation measures would be necessary to remediate the project site if warranted. Elimination of the residential component of the project would leave the site in agricultural use.

3.8 Drainage and Water Quality (less): While similar mitigation measures will be required, the elimination of the proposed residential development from the proposed development will decrease the total amount of impervious surfaces, lessening the impact on the entire project site.

3.9 Land Use (similar): The primary issue related to land use is the project's consistency with City planning documents and LAFCO policy. This alternative, although it eliminates 46 acres of development area, would face the same essential issues of general plan consistency, land use, agricultural land conversion and provision of services. Impacts would essentially be the same as the project.

3.10 Noise (less): Potentially significant impacts associated with implementation of the project would be reduced under this alternative. Similar mitigation measures would be required to reduce construction-related impacts, however impacts would be reduced the removal of new sensitive receptors (residences). Mitigation to shield new residences would not be required under this alternative as the primary impact of the project would be avoided.

3.11 Traffic and Circulation (less): The elimination of the residential land uses would reduce the traffic improvements needed west of Highway 101 along El Camino Real, and reduce the total number of trips generated by the project. However, major improvements (such as the new interchange at Espinosa) would still be triggered at General Plan buildout.

3.12 Public Services and Utilities (less): In terms of the environmental impacts, this alternative would result in a reduction in development density (elimination of low density residential units) and would decrease the demand for law enforcement and fire protection services, solid waste collection, water and sewer service.

ALTERNATIVE 3 – "ORIGINAL SOI" ALTERNATIVE

Alternative 3 assumes that the Highway Commercial and Heavy Industrial components of the South End SOI project on the east side of Highway 101 would be relocated to the industrial area of the City's General Plan planning area in the southeast section of the City. The residential component (and amended SOI on the west side of Highway 101) would remain as proposed. The purpose of this alternative is to fit the proposed uses into the City's General Plan planning area as adopted in May 2005, without amending the SOI to the south along the freeway.

Comparative Analysis

3.1 Aesthetics and Visual Resources (less): Potentially significant impacts associated with aesthetics and visual character and excess light and glare would be slightly reduced in this scenario since the area of development (and potential visual effect) would be located further from the freeway (a primary viewing area). New development would not be stretched southward along the freeway.

3.2 Agricultural resources (greater): One of the City's goals in processing a General Plan amendment for the southeast corner of the Planning Area is to remove this area of very

high agricultural value from the City's planning area. As such, Alternative 3 would result in greater impacts to a high-value agricultural resource.

3.3 Air Quality (similar): Buildout of the project in this alternative location would not significantly effect the type or quantity of emissions from the proposed land uses. Impacts would therefore be similar.

3.4 Biology (similar): Alternative 3 would result in urbanization of approximately the same amount of land area as compared to the project. This alternative would not avoid any specific or unique biological resources. Impacts would therefore be similar.

3.5 Cultural Resources (similar): No significant impacts to historic, cultural or archaeological resources are expected to occur under this alternative or the project, other than the unlikely, but possible, discovery of buried resources during construction. Based on the site conditions and the archaeological findings, the impact potential of building the project at this alternative location would be similar.

3.6 Geology, Soils & Geologic Hazards (similar): Soil types vary between locations in and around Greenfield; however, the relocation of the project to the City's "adopted" plan area would not significantly affect the project or exposure to geologic or soil-related hazards.

3.7 Hazards / Risk of Upset (similar): The site conditions in the southeast corner of the City's "adopted" plan area are similar to site conditions. Although a Phase I has not been conducted in this alternative area, its historic use as agriculture would be expected to yield similar conditions and therefore similar impacts to future development.

3.8 Drainage and Water Quality (similar): Considering that the same amount of land area would be developed under this alternative, upon similar topographic conditions, it can be expected that similar drainage improvements and basins would be required to control project runoff.

3.9 Land Use (greater): The primary issue related to land use is the project's consistency with City planning documents and LAFCO policy. This alternative would place the majority of new development on an area identified by LAFCO as extremely high quality farmland. As such, the impact relative to LAFCO policy would be greater.

3.10 Noise (similar): Relocating the project to the "adopted" southeast corner of the City would not reduce traffic trips or noise sources. Noise impacts relative the residential area would be identical to the project, and noise sources created by the Highway Commercial and Industrial acreage in the relocated project area would be very similar.

3.11 Traffic and Circulation (greater): Assuming the ultimate development of land uses under Alternative 3 as compared to the project, it is assumed that total trip generation

would be the same. The trip distribution on the roadway network, however, would be significantly different.

If the project land uses were developed in the southeast corner of the adopted General Plan, a significant portion of the vehicle trips from the project would be expected to make their way to the freeway via Oak Avenue, resulting in significant, unanticipated traffic impacts to the City's roadway network and intersections. Highway 101 interchange improvements would also be required at the south end of the project. Although a new interchange at Espinosa Road would probably not be necessary with the project located further north, that major improvement would serve to spread the distribution of traffic to a larger area. Without that improvement at buildout, the overall effect and impact to the City's roadway system would be expected to be more severe under Alternative 3.

3.12 Public Services and Utilities (less): The project as proposed is located in an area that results in engineering challenges to public service systems; particularly sewer extension. Although these challenges can be overcome through engineering and design, the project location under Alternative 3 would place the developed area closer to existing service connections and closer to the wastewater treatment plant.

4.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6(e)(2) requires that the environmentally superior alternative be identified. If the environmentally superior alternative is the "No Project" Alternative, the EIR shall also identify an environmentally superior alternative among other alternatives. In this case, Alternative 1, "No Project-No Development," represents the environmentally superior alternative because, as determined from the above analysis, most impacts would be reduced relative to the proposed project. From the remaining options, Alternative 2, the "No Residential Development" alternative would be the environmentally superior alternative and would result in greater reductions in number and degree of environmental impacts as compared to the proposed project and other alternatives. This is due primarily to the fact that residential uses result in the introduction of more "sensitive receptors" to impacts. In addition, Alternative 2 reduces the total acreage to be developed and thus has an overall reduction in the degree of impact in most impact categories.

The viability of such an alternative is uncertain. The proposal is sponsored by two primary landowners, one of which holds the property proposed for residential development. It is unknown to the City at this time if the SOI amendment as proposed requires the residential component to be viable. If the residential component were removed, the City's plans for making a logical SOI adjustment on the west side of the City would be compromised. A summary matrix below as **Table 4-1**, which compares each alternative with the proposed project.

TABLE 4-1
COMPARISON OF PROJECT ALTERNATIVES TO THE PROPOSED PROJECT

Environmental Category	Alt. 1 "No Project, No Development"	Alt. 2 "No Residential"	Alt. 3 "Original SOI Location"
Aesthetics and Visual Resources	Less	Similar	Less
Agricultural Resources	Less	Less	Greater
Air Quality	Less	Less	Similar
Biological Resources	Less	Less	Similar
Cultural Resources	Less	Similar	Similar
Geology, Soils and Geological hazards	Less	Less	Similar
Hazards / Risk of Upset	Similar	Similar	Similar
Drainage and Water Quality	Less	Less	Similar
Land Use	Less	Similar	Greater
Noise	Less	Less	Similar
Traffic and Circulation	Less	Less	Greater
Public Services and Utilities	Less	Less	Less
Consistency with Project Objectives	Less consistent	Less consistent	Less consistent

Greater = Impacts of greater number or degree would occur, as compared to the proposed project.
Less = Impacts of fewer number or lesser degree would occur, as compared to the proposed project.
Similar = Impacts similar in number or degree would occur, as compared to the proposed project. .
Consistent = Alternative would be consistent with stated Project Objectives.
Less Consistent = Alternative would be less consistent with stated Project Objectives.

5.0 Cumulative Impacts Summary

This section of the EIR identifies the cumulative impacts associated with the South End SOI project as statutorily required by CEQA. The following discussion considers the impacts of the relevant environmental areas, where significant cumulative effects have been identified. This information is summarized from the various analyses from **Section 3.0** of this EIR.

5.1 ANALYSIS REQUIREMENT

CEQA GUIDELINES

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the proposed project. According to CEQA Guidelines Section 15130, "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in relation with the effects of past projects, the effects of other current projects, and the effects of probable future projects. As defined in CEQA Guidelines Section 15355, cumulative impacts refer to two or more individual effects which, when considered together, are substantial or which compound or increase other environmental impacts. A cumulative impact occurs from:

> *…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1. Either:

   (A) A list of past, present, and probably future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

   (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency;

2. A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available, and

3. A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. CEQA Guidelines Section 15130(a) also states the following with regard to cumulative impacts that are not significant:

- An EIR is not required to discuss impacts that do not result in part from the project evaluated in the EIR (Section 15130(a)(1)).

- When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR (Section 15130(a)(2)).

- An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of mitigation measure or measures designed to alleviate the cumulative impact (Section 15130(a)(3)).

CEQA Guidelines (Section 15130(b)(1)) requires the use of one method of cumulative analysis from two choices offered: a list of known past, present and probable future projects in the area or a summary of projections contained in adopted municipal plans and planning documents. For the purposes of cumulative impact analysis for this EIR, the list method is used. Relative to this method, CEQA Guidelines state the following:

1. When utilizing a list…factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project and its type. Location may be important, for example, when water quality impacts are at issue since projects outside the watershed would probably not contribute to a cumulative effect. Project type may be important, for example, when the impact is specialized, such as a particular air pollutant or mode of traffic.

2. Lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used (§§15130(b)(1)(A)1., 2., 3).

5.2 CUMULATIVE IMPACT ANALYSIS AND ASSUMPTIONS

Based on existing site conditions and site-specific impacts, an assessment of the project's contribution to cumulative impacts was discussed for each of the topic areas addressed in **Section 3.0**, **Environmental Setting, Impacts and Mitigation Measures**. Impacts associated with cumulative development were analyzed based on the project's effects, combined a summary of projections in the adopted City of Greenfield General Plan. According to the General Plan, full build-out would involve urban development of approximately 2,400 acres with multiple land uses, supporting a "worst case" buildout population of up to 36,000 people by the year 2025.

AESTHETICS AND VISUAL RESOURCES

Cumulative Impact to Scenic Resources and Visual Character

Impact 3.1-5 Project buildout will incrementally add to ongoing changes to Greenfield's aesthetic and visual character. This is **a significant and unavoidable cumulative impact**.

This impact was previously identified in the City of Greenfield's General Plan EIR. That document found that despite policies to improve design standards and quality of the built environment, changes resulting from the General Plan will result in an unavoidable change to the existing aesthetics and agricultural character of the City. The South End SOI EIR, as an extension of the City's planning area and sphere of influence, will also contribute incrementally to this change on a city-wide basis. Consistent with the findings of the General Plan EIR, the Conservation, Recreation and Open Space Element and related polices and programs address visual resources and urban design. Despite these regulations, the amount of change, pace of change will be significantly altered by General Plan buildout. As a large project being added to the ultimate General Plan boundary, the South End SOI project is considered a significant contributor to that city-wide impact.

Agricultural Resources

Cumulative Loss of Farmland

Impact 3.2-4 The proposed project would convert approximately 214 acres of agricultural land to urban uses. This loss would contribute to the cumulative loss of farmland in the region. This considered a **significant and unavoidable cumulative impact.**

Growth and development within the region will lead to the irreversible conversion of important farmland, on a scale of thousands of acres. Greenfield's General Plan will

contribute to the cumulative conversion of farmland when analyzed as a regional issue. The County of Monterey has experienced an 18 percent decrease (271,320 acres) in the amount of `Prime Farmland´ between 1997 and 2002 from the conversion of farmland to urban uses. The proposed project would contribute to the on-going conversion of prime agricultural land in Monterey County to urbanized uses by converting approximately 214 acres of agricultural land to commercial uses. The proposed project would therefore contribute to the cumulative conversion of farmland to urban uses and would result in a **significant and unavoidable** impact for which there is no feasible mitigation measure to reduce the impact to a less than significant level.

AIR QUALITY

Impact 3.3-7 New development, combined with other reasonably foreseeable projects in the City, would contribute to increased air quality emissions in the air basin. This cumulative impact is **significant and unavoidable**.

The project's contribution to a significant cumulative air quality impact would be significant and unavoidable. The Association of Monterey Bay Area Governments (AMBAG) made findings of project consistency with the regional air quality management. MBUAPCD CEQA Guidelines provide that a consistency analysis and determination serve as an assessment of the cumulative impacts of a project on regional air quality. AMBAG has determined that the proposed project is consistent with the AQMP. However, as identified in Impact 3.3-3 operational/regional emissions from buildout of the proposed project would result in a significant and unavoidable impact. In addition, the City of Greenfield General Plan EIR identified that regional emissions for the Planning Area were significant and unavoidable. The project site is currently located outside of the City of Greenfield limits; addition of the proposed project site would cause the regional emissions for the City to remain significant and unavoidable. Therefore the cumulative impact of the project is considered to be **significant and unavoidable**.

BIOLOGICAL RESOURCES

Impact 3.4-3 Development of the project location, in addition to anticipated cumulative development in the project vicinity, would result in disturbance to special status species and sensitive habitats throughout the region. These impacts would be considered **cumulative and potentially significant**.

As presented in the impact discussion above, implementation of the proposed project would result in a loss of habitat and contribute to biological resource impacts, including disturbance of special status species. Anticipated development and urban expansion of the area is expected to further contribute to these impacts and is considered potentially cumulative significant for impact to biological resources. City-wide impacts of General Plan

buildout have been analyzed in the City's General Plan EIR. Findings regarding city-wide impacts have been made and adopted by the City of Greenfield, recognizing long term changes within the City.

Implementation of measures **MM 3.4-1** and **MM 3.4-2** would reduce the project's overall contribution to cumulative biological resource impacts to a **less than significant** level. As mitigated, and based on the limited biological resources and habitat values at the site, the project's contribution is not cumulatively considerable. The project addresses site-specific biological resources consistent with the implementation measures set forth in the General Plan.

TRAFFIC AND CIRCULATION

General Plan Buildout Plus Project Buildout Traffic Conditions

Intersection Levels of Service

Impact 3.11-4 Full buildout of all phases of the project as proposed, together buildout of the Greenfield General Plan land uses, will cause several study intersections to operate below LOS C or D during the AM and/or PM peak hour. This cumulative buildout condition triggers the need for significant improvements to the City's roadway network, including a new freeway interchange at Highway 101 and Espinosa Road. The project's contribution to these impacts and required improvements is **significant**.

With the addition of the project, the existing Patricia Lane /El Camino Real (South) Overpass will not be able to provide adequate capacity. The limited land availability on the west side of the interchange and the close spacing of the interchange ramps to the main line, limits improvement opportunities that would meet Caltrans standards without acquiring several developed properties in the vicinity of the interchange, which may not be feasible. The existing bridge would also have to be widened or reconstructed.

The entire impact discussion is contained in Section 3.11. Based on these cumulative (project plus General Plan Buildout) impacts, the following mitigation measures were identified:

MM 3.11-4a The project shall be responsible for providing a new interchange at Highway 101 and Espinosa Road, including all related ramp improvements, lane configurations and necessary right of way acquisition as specified in the Traffic Impact Analysis (Higgins Associates, February 2006). The interchange shall be required at such time as traffic trips associated with project development warrant the improvement. As the interchange is not warranted without the project, the project shall fund

the cost of the interchange up front until such time as reimbursement agreements, bonds, fees or other shared funding options are put in place by the City of Greenfield.

MM 3.11-4b The project shall be responsible for fair share contribution toward a series of planned intersection improvements as identified within the Greenfield General Plan Circulation Element. Fifteen intersections, as identified in the Traffic Impact analysis (Higgins Associates, February 2006) are significantly affected by project buildout. The project shall contribute fair share funding toward these intersection improvements through payment of traffic impact fees prior to issuance of building permits. If the project triggers these improvements, the project may also be required to provide up front funding until such time as reimbursement agreements, bonds, fees or other shared funding options are put in place by the City.

Roadway Segment Levels of Service

Impact 3.11-5 Full buildout of all phases of the project as proposed, together buildout of the Greenfield General Plan land uses, will cause several roadway segments to operate at LOS E or F. As the City's standard for segment operation is LOS C (and in some cases D), this is a **significant** impact.

MM 3.11-5 The project shall be responsible for fair share contribution toward a series of planned roadway segment improvements as identified within the Greenfield General Plan Circulation Element. Roadway segments, as identified in the Traffic Impact analysis (Higgins Associates, February 2006) are significantly affected by project buildout. The project shall contribute fair share funding toward these segment improvements through payment of traffic impact fees prior to issuance of building permits. If the project triggers these improvements, the project may also be required to provide up front funding until such time as reimbursement agreements, bonds, fees or other shared funding options are put in place by the City.

Roadway Network Expansion

Impact 3.11-6 Implementation of the project will require modifications to the Greenfield's roadway network at the south end of City. Expansion of the City's planned roadway network to accommodate land uses within the Sphere of Influence Amendment is a **significant** impact of project buildout.

The addition of the residential uses on the west side of town and the commercial and industrial uses on the east side requires that the arterial road network be expanded. Third Street will extend southwards from Elm Street to Espinosa Road. Current volumes indicate that a three-lane facility is required just south of Elm Street and a four-lane facility from the freeway to north of Espinosa Road. Based on ultimate site plan proposals, these lane configurations may change. The addition of the residential uses on the southwest side of town will require the extension of 13th Street southwards to the end of the Sphere of Influence line. Thirteenth Street would then extend eastwards along the southern boundary of the Sphere of Influence up to El Camino Real. This new street would provide access to both the Residential Estate and Low Density Residential uses. The end result would be a "loop" configuration around the south end of the City. The mitigated General Plan Buildout Plus Project conditions (segment volumes and levels of service) are illustrated in **Figure 3.11-6.**

As a secondary effect of the project, the City of Greenfield's traffic impact fee program and General Plan circulation element will require updates to reflect the expanded roadway network.

MM 3.11-6a Detailed site planning within the South End SOI area shall accommodate plans for the expanded roadway network and "loop" connection system. Circulation planning shall be conducted in consultation with the Director of Public Works at the time of application submittal, and shall be consistent with the Circulation Element. Any project requiring the expanded roadways will be required to dedicate right of way and construct roads to City standards.

MM 3.11-6b Prior to the City's application to LAFCO to amend the SOI, the project applicant shall contribute a share of the costs associated with updating the General Plan Circulation Element, as the update is required as a direct result of the project. Appropriate share will be determined by the City of Greenfield.

MM 3.11-6c Immediately upon approval of the project by the City of Greenfield, the applicant shall fund the full cost of updating the City's traffic impact fee program, as the update is required as a direct result of the project.

General Plan Buildout Plus Project Traffic Conditions – Highway 101 Traffic Volumes

Impact 3.11-7 With full General Plan buildout plus Project traffic, additional widening on Highway 101 to six lanes would be required. This is a **significant impact.**

The project is estimated to generate approximately 32,000 daily trips. It is expected that 40 percent of the trips will travel northbound and 30 percent southbound on Highway 101, from the new Espinosa Road interchange.

Recent proposed developments in King City revealed some increased traffic forecasts on Highway 101 and these traffic numbers were used to calculate the corresponding levels of service for Highway 101 north and south of Greenfield. There is an increase in Highway 101 volumes, especially south of Greenfield based on the proposed King City Developments, which also impacts Highway 101 through the City. The most recent volumes are only estimates and have not been approved by any regional agency. The current Caltrans acceptable LOS is C.

With the project volumes added to Highway 101 at General Plan buildout, additional widening to six lanes would be required through the City between the Walnut Avenue interchange and the Thorne Road interchange based on volume thresholds. Increased volumes between Walnut Avenue and Oak Avenue and the short distance between these interchanges may also require widening to six lanes based on adverse operational conditions. This is an impact attributable to the project. The need for additional lanes north of Thorne Road would be required with or without the project based upon projected cumulative volumes for Highway 101.

The new Espinosa Road interchange would be located approximately one mile south of the Oak Avenue interchange, no highway widening between Oak Avenue and the interchange would be required. South of the Espinosa interchange, the freeway would be upgraded from a four lane expressway to a four lane freeway. This is not a project impact, since the freeway would operate at LOS D without the project and would have to be upgraded.

There is currently no fee collection mechanism in place by the City, TAMC or Caltrans for the funding of Highway 101 widening projects within or outside the City. Widening of the highway would be considered a major capital project, and no calculations have been made regarding the cost of such improvements. As such, project mitigation for widening the freeway through the City (or contributing towards a regional widening project north of the City) is considered infeasible until such time that the City establishes an impact fee specifically to be used toward freeway mainline widening. Until such a fee is in place, the project impact on the freeway between Thorne Road and Oak Avenue, as well a project contribution to cumulative freeway impacts north of Thorne Road, is considered **significant and unavoidable.**

6.0 Other Sections Required by CEQA

This section discusses the long-term implications of the project as required by CEQA. The topics discussed include significant irreversible environmental changes/irretrievable commitment of resources, growth-inducing impacts and significant and unavoidable environmental effects.

6.1 IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA REQUIREMENT

Public Resources Code Section 21100(b)(2)(B) requires an Environmental Impact Report to include a detailed statement setting forth any significant effects on the environment that would be irreversible if a project is implemented. Examples of irreversible environmental changes, as set forth in CEQA Guidelines Section 15126.2(c), include the following:

- The project would involve a large commitment of nonrenewable resources such that removal or nonuse thereafter is unlikely;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g. a highway providing access to a previously inaccessible area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or,
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

A proposed project would result in significant irreversible effects if it is determined that key resources would be degraded or destroyed to the extent that there is little possibility of restoring them. Irreversible environmental changes should be evaluated to assure that such current consumption is justified (CEQA Guidelines Section 15126.2(c)).

ANALYSIS

The proposed South End project would result in increased intensity of development, with the conversion of currently agricultural land to residential, highway commercial, and industrial uses. A variety of nonrenewable and limited resources would be irretrievably committed for project construction and maintenance, including, but not limited to, oil, natural gas, gasoline, lumber, sand and gravel, asphalt, steel, water, land, energy, construction materials and human resources. In addition, the project would result in an increase in demand on public services and utilities. Many of the mitigations in this EIR require the expenditure of nonrenewable resources in addition to those described above; however, when compared with long-term impacts of not completing the mitigations, it is

generally assumed that more significant impacts would occur if the mitigations were not implemented. For this reason, and for the reasons described in the sections above, it is clear that the mitigations have less of an impact than those impacts they are meant to address.

An increase in the intensity of land uses on the site would result in an increase in regional electric energy consumption to satisfy additional electricity demands from the project. These energy resource demands relate to initial project construction, transport of people and goods, and lighting, heating and cooling of buildings. The construction of all buildings onsite would be required to meet standards set by the California Building Code for energy efficiency. It is also anticipated that the project area would likely reduce its energy use in the future as technological improvements for energy efficient design get implemented..

Development of the site to support urban uses may be regarded as a permanent and irreversible change. Parts of the site were historically used for farm labor housing and are currently vacant agricultural lands. Site development would essentially eliminate future agricultural activities on the site except for agricultural processing activities that may fit the Heavy Industrial zoning designation on the east side of Highway 101. Grading, utility extensions, drainage improvements, new and improved roadways and construction of buildings would permanently alter the character of the site to one that is urbanized. The project would generally commit future generations to similar urban uses on the site.

6.2 GROWTH INDUCING IMPACTS

CEQA REQUIREMENT

Public Resources Code Section 21100(a)(5) requires that the growth-inducing impacts of a project be addressed in the EIR. A project may be growth-inducing if it directly or indirectly fosters economic or population growth or additional housing, removes obstacles to growth, taxes community services facilities or encourages or facilitates other activities that cause significant environmental effects (CEQA Guidelines Section 15126.2(d)). Direct growth-inducing impacts result when the development associated with a project directly induces population growth or the construction of additional developments within the same geographic area. These impacts may impose burdens on a community or encourage new local development, thereby triggering subsequent growth-related impacts.

The analysis of potential growth-inducing impacts includes a determination of whether a project would remove physical obstacles to population growth. This often occurs with the extension of infrastructure facilities that can provide services to new development. Indirect growth-inducing impacts result from projects that serve as catalysts for future unrelated development in an area. Development of public institutions, such as colleges, and the

introduction of employment opportunities within the same geographic area are examples of projects that may result in direct growth-inducing impacts.

CEQA provides no criteria for determining if induced growth is detrimental or beneficial. Induced growth is considered a significant impact only if it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth could significantly affect the environment in some other way.

ANALYSIS

Extension of Utility Systems

Impact 6.0-1 Extension of potable water delivery and wastewater collection systems to serve the project site may directly or indirectly create additional pressure to develop lands adjacent to these service lines. This is considered a **less than significant** growth-inducing impact.

The project area is adjacent to the southern boundary of the Greenfield Sphere of Influence. The project site is also adjacent to developed and developing areas within the City, which have existing water and wastewater services. The proposed project would extend these services throughout the project site. The water and wastewater services would not be permitted by the City to extend beyond the project boundary into the surrounding parcels not located within the City limits. The proposal is consistent with AMBAG estimates and will help provide a jobs and housing balance within the City of Greenfield. For those reasons noted above, implementation of the proposed project is considered to have a **less than significant** growth inducing impact on the surrounding area.

Annexation of Future Residential Areas

Impact 6.0-2 Implementation of the South End Annexation will yield approximately 329 new residential units and 1,316 residents. This is a **less than significant** growth-inducing impact.

According to *2004 Regional Population and Employment Forecast for Monterey, San Benito and Santa Cruz Counties* (AMBAG 2004), the City of Greenfield had a projected population of 15,097 by 2005 and 24,512 by 2020. According to the California Department of Finance, Greenfield had a population of 13,136 on January 1, 2005 – almost 2,000 fewer people than projected by AMBAG in 2004. The addition of 1,316 additional people due to the housing proposed on the project site would increase the City's total population to 14,452 from the January 1, 2005 total. Although there is some housing currently under construction within the City that will result in additional housing supply in the near term, it is not anticipated that the total population of the City would exceed

AMBAG estimates. Therefore, the proposed project would result in a **less than significant** impact to population growth in the area.

Development of Commercial and Heavy Industrial Land Uses

Impact 6.0-3 The development of a Highway Commercial and Heavy Industrial uses on the project site may introduce employment opportunities and directly or indirectly create additional pressure to develop lands adjacent to the project site. This is considered a **less than significant** impact.

The proposed development of approximately 170 acres of Highway Commercial and Heavy Industrial uses would introduce new employment opportunities into the City. It is anticipated that any employment opportunities created by the development will be offset by the increased number of housing units built within the City in the last few years and the included housing units that would be built as part of the project. Areas north of the project site are located within the designated Greenfield Planning Area and have already been developed or are designated for urban uses including schools, industrial, and commercial. The City of Greenfield is in the process of updating its General Plan to include the area west of the project in its Sphere of Influence for housing and areas south of the Scheid West portion of the project and east of the Scheid East portion of the project are being proposed as a Future Planning Area. These areas are primarily used for agricultural purposes and with exception of lands west of the Scheid West portion of the project area, would remain outside the amended Sphere of Influence. Any future development into these areas would require City and LAFCO approval. Therefore, the employment opportunities created by the construction of the proposed Highway Commercial and Heavy Industrial uses is not anticipated to create additional pressure to develop lands adjacent to the project, as such this impact is **less than significant**.

6.3 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL EFFECTS

Public Resources Code Section 21100(b)(2)(A) requires an EIR to include a detailed statement setting forth any significant effects on the environment that cannot be avoided if a project is implemented. CEQA Guidelines Section 15126.2(b) states that such impacts include those, which can be mitigated but not reduced to a level of insignificance. In addition, Section 15093(a) of the CEQA Guidelines allows the decision-making agency to determine if the benefits of a proposed project outweigh the unavoidable adverse environmental impacts of implementing the project. The City of Greenfield can approve a project with unavoidable adverse impacts if it prepares a "Statement of Overriding Considerations" setting forth the specific reasons for making such a judgment. Based upon the environmental analysis provided in **Section 3.0**, the proposed project would result in the following significant and unavoidable environmental effects:

AESTHETICS AND VISUAL RESOURCES

Cumulative Impact to Scenic Resources and Visual Character

Impact 3.1-5 Project buildout will incrementally add to ongoing changes to Greenfield's aesthetic and visual character. This is **a significant and unavoidable** cumulative impact.

This impact was previously identified in the City of Greenfield's General Plan EIR. That document found that despite policies to improve design standards and quality of the built environment, changes resulting from the General Plan will result in an unavoidable change to the existing aesthetics and agricultural character of the City. The South End SOI EIR, as an extension of the City's planning area and sphere of influence, will also contribute incrementally to this change on a city-wide basis. Consistent with the findings of the General Plan EIR, the Conservation, Recreation and Open Space Element and related polices and programs address visual resources and urban design. Despite these regulations, the amount of change, pace of change will be significantly altered by General Plan buildout. As a large project being added to the ultimate General Plan boundary, the South End SOI project is considered a significant contributor to that city-wide impact.

AGRICULTURAL RESOURCES

Conversion of Prime Farmland

Impact 3.2-1 The South End project will result in the eventual conversion of approximately 217 acres of Prime Farmland to urban uses. This impact is a **significant and unavoidable** impact of the proposal.

With prime farmland surrounding the existing City of Greenfield, the City recognizes that any growth beyond the existing City limits will result in significant impacts relative to conversion. However, the City has attempted to minimize those impacts through the efficiency of the land use pattern proposed, as well as the Goals, Policies and Programs of the Land Use and Conservation, Recreation and Open Space Elements that promote the long-term viability of agricultural within and adjacent to the City. The South End SOI project adds additional farmland acreage to the City that will be converted. There are, however, other mitigating circumstances specific to this project such as the Williamson Act Exchange Program and the pending General Plan Amendment outlined in Section 3.2. Regardless of these mitigating circumstances, the City acknowledges that the project area itself would result in the physical conversion of prime farmland, and that such conversion would be an unavoidable environmental consequence. Although the City has incorporated a series of planning measures into the General Plan itself that recognize agriculture as an important resource, this impact is considered a **significant and unavoidable** consequence of the project.

Cumulative Loss of Farmland

Impact 3.2-4 The proposed project would convert approximately 214 acres of agricultural land to urban uses. This loss would contribute to the cumulative loss of farmland in the region. This considered a **significant and unavoidable** cumulative impact.

Growth and development within the region will lead to the irreversible conversion of important farmland, on a scale of thousands of acres. Greenfield's General Plan will contribute to the cumulative conversion of farmland when analyzed as a regional issue. The County of Monterey has experienced an 18 percent decrease (271,320 acres) in the amount of `Prime Farmland´ between 1997 and 2002 from the conversion of farmland to urban uses. The proposed project would contribute to the on-going conversion of prime agricultural land in Monterey County to urbanized uses by converting approximately 214 acres of agricultural land to commercial uses. The proposed project would therefore contribute to the cumulative conversion of farmland to urban uses and would result in a **significant and unavoidable** impact for which there is no feasible mitigation measure to reduce the impact to a less than significant level.

AIR QUALITY

Operational Emissions

Impact 3.3-3 Operational emissions associated with buildout of the proposed Residential, Commercial and Industrial uses would result in emissions of criteria air pollutants. Project-generated emissions would exceed MBUAPCD's significance thresholds. This is considered a **significant and unavoidable** impact.

Regional area and mobile source emissions associated with the proposed land uses were estimated using the ARB-approved URBEMIS2002 (version 8.7) computer program, which is designed to model emissions for land use development projects. The vehicle trip characteristics for the North Central Coast Air Basin, as identified in the MBUAPCD's *CEQA Air Quality Guidelines*, were included in the model. Vehicle trip generation rates for proposed land uses were based on data obtained from the transportation analysis prepared for this project (Higgins Associates 2005). In accordance with MBUAPCD recommendations, long-term operational emissions attributable to the proposed project were quantified assuming full buildout for both summer and winter conditions. To ensure a conservative analysis, project-generated emissions were estimated based on year 2010 emission factors.

Based on the modeling conducted, predicted long-term direct and indirect operational emissions of ROG, NO_X, and PM_{10} would exceed MBUAPCD significance thresholds.

Long-term operational emissions of CO and SO_X from direct sources were not estimated to exceed MBUAPCD significance thresholds. However, the URBEMIS2002 model does not take into account onsite mobile source emissions that sometime occur associated with some commercial or industrial land uses that involve use of large numbers of onsite mobile equipment (e.g., distribution facilities, agricultural packaging facilities, truck stops). As a result, should proposed development include uses that involve the substantial use of onsite mobile equipment, long-term direct emissions of CO associated with proposed commercial and industrial land uses may exceed MBUAPCD significance thresholds. Because project-generated emissions would exceed MBUAPCD significance thresholds, this impact would be considered **significant**.

Implementation of **MM 3.3-3** and incorporation of specific measures into project design would reduce long-term operational emissions, but not necessarily to less-than-significant levels. Measures that promote use of alternative means of transportation or carpooling would typically reduce mobile-source emissions by less than approximately two percent (MBUAPCD 2004). Project-generated emissions of ROG, NO_X, and PM_{10} would still be anticipated to exceed MBUAPCD's recommended significant thresholds. No additional mitigation measures were identified that would reduce emissions to below MBUAPCD's significance thresholds. As a result, increases in long-term regional emissions attributable to the proposed project would be considered **significant and unavoidable**.

Cumulative Regional Impacts

Impact 3.3-7 New development, combined with other reasonably foreseeable projects in the City, would contribute to increased air quality emissions in the air basin. This cumulative impact is **significant and unavoidable.**

The project's contribution to a significant cumulative air quality impact would be significant and unavoidable. The Association of Monterey Bay Area Governments (AMBAG) made findings of project consistency with the regional air quality management. MBUAPCD CEQA Guidelines provide that a consistency analysis and determination serve as an assessment of the cumulative impacts of a project on regional air quality. AMBAG has determined that the proposed project is consistent with the AQMP. However, as identified in Impact 3.3-3 operational/regional emissions from buildout of the proposed project would result in a significant and unavoidable impact. In addition, the City of Greenfield General Plan EIR identified that regional emissions for the Planning Area were significant and unavoidable. The project site is currently located outside of the City of Greenfield limits; addition of the proposed project site would cause the regional emissions for the City to remain significant and unavoidable. Therefore the cumulative impact of the project is considered to be **significant and unavoidable**.

TRAFFIC AND CIRCULATION

General Plan Buildout Plus Project Buildout Traffic Conditions

Impact 3.11-7 With full General Plan buildout plus Project traffic, additional widening on Highway 101 to six lanes would be required. This is a **significant** impact.

The project is estimated to generate approximately 32,000 daily trips. It is expected that 40 percent of the trips will travel northbound and 30 percent southbound on Highway 101, from the new Espinosa Road interchange.

Recent proposed developments in King City revealed some increased traffic forecasts on Highway 101 and these traffic numbers were used to calculate the corresponding levels of service for Highway 101 north and south of Greenfield. There is an increase in Highway 101 volumes, especially south of Greenfield based on the proposed King City Developments, which also impacts Highway 101 through the City. The most recent volumes are only estimates and have not been approved by any regional agency. The current Caltrans acceptable LOS is C.

Due to project volumes added to Highway 101, additional widening to six lanes would be required through the City between the Walnut Avenue interchange and the Thorne Road interchange based on volume thresholds. Increased volumes between Walnut Avenue and Oak Avenue and the short distance between these interchanges may also require widening to six lanes based on adverse operational conditions. This is an impact attributable to the project. The need for additional lanes north of Thorne Road would be required with or without the project based upon projected cumulative volumes for Highway 101.

The new Espinosa Road interchange would be located approximately one mile south of the Oak Avenue interchange, no highway widening between Oak Avenue and the interchange would be required. South of the Espinosa interchange, the freeway would be upgraded from a four lane expressway to a four lane freeway. This is not a project impact, since the freeway would operate at LOS D without the project and would have to be upgraded.

There is currently no fee collection mechanism in place by the City, TAMC or Caltrans for the funding of Highway 101 widening projects within or outside the City. Widening of the highway would be considered a major capital project, and no calculations have been made regarding the cost of such improvements. As such, project mitigation for widening the freeway through the City (or contributing towards a regional widening project north of the City) is considered infeasible until such time that the City establishes an impact fee specifically to be used toward freeway mainline widening. Until such a fee is in place, the project impact on the freeway between Thorne Road and Oak Avenue, as well a project

contribution to cumulative freeway impacts north of Thorne Road, is considered **significant and unavoidable.**

6.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

A significant effect on the environment is generally defined as a substantial or potentially substantial adverse change in the physical environment (CEQA Guidelines Section 15358). The term "environment", as used in this definition, means the physical conditions that exist within the area that will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise and objects of historic or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions (CEQA Guidelines Section 15360).

Detailed analyses and discussion of environmental topics found to be significant is provided within **Section 3.0** of this EIR. Listed below are those environmental issues found to have no impact as a result of the project. This determination is based on the scope of prior environmental documentation for this site, standards of significance contained within the CEQA Guidelines and the Notice of Preparation process for the project. The completed NOP and responses from the public and affected agencies and organizations are included in **Appendix A**.

AESTHETICS AND VISUAL RESOURCES

Individual Scenic or Visual Resources

Development of the project area will not result in the removal of scenic resources. The project site is primarily undeveloped farmland and has been in agricultural use for at least the past 50 years. There are no significant trees or rock outcroppings on the proposed project site. There is one residence and one metal shed located on the proposed site, however PMC's cultural resource staff have indicated that the residence would not meet the eligibility criteria for the California Register of Historical Resources. The rural residence is not historically significant. Therefore, there is **no impact** to significant, individual scenic resources.

GEOLOGY, GEOLOGICAL HAZARDS

Unique Geologic Features/Landform Alteration

Landform alteration impacts that may result from ultimate development on the project site include land clearing for the construction of roads, infrastructure, building pads, parking areas, and other permanent improvements. These improvements require portions of the site

to be graded and compacted with earth moving equipment. However, the site, located on the floor of the Salinas Valley, is flat and nearly level. There are no distinct topographic surfaces or geologic features (such as hills, slopes, or rock outcroppings) on the site or in the immediate vicinity that would be altered as a result of this project. There are man made agricultural plateaus located along Elm Avenue between Highway 101 and Third Street. These sloped plateaus are between the existing agricultural uses and roads, which are located at a higher elevation than the agricultural uses. The man made plateaus will pose no risk to, and are not part of the proposed project site. Therefore, the project will not result in the destruction or alteration of unique geologic features or extensive landform alteration and **no impact** is expected. No mitigation is required.

Ground Rupture

There are no faults mapped across the project site, and the potential for surface fault rupture to impact the proposed development is considered very low. Based upon U.S. Geological Survey maps and information provided by the County of Monterey, the nearest fault line is determined to be the Reliez/Rinconada Fault system approximately five miles to the west. Therefore, completion of the proposed project would not expose people or property to ground rupture and **no impact** is expected. No mitigation is required.

HEALTH HAZARDS / RISK OF UPSET

Wildland Fire

Wildland fire impacts may be considered significant if the project would 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. However, based on observed site conditions and according to the Central Salinas Valley Area Plan, the project site is not located in an area prone to wildland fire or excessive fuel loading and **no impact** is anticipated.

LAND USE

Conflicts with Applicable Habitat Conservation Plan

There are no habitat conservation plans within or adjacent to the City of Greenfield. Therefore, **no impact** would occur.

7.0 Report Preparers and References

7.1 PREPARERS OF THE ENVIRONMENTAL IMPACT REPORT

CITY OF GREENFIELD STAFF

- Anna Vega, City Manager
- John Alves, Deputy City Manager/Public Works Director
- Mark McClain, Building Official/Planning Manager
- April Wooden, Community Development Director
- Mike Ranker, Contract City Engineer

PACIFIC MUNICIPAL CONSULTANTS

- Tad Stearn, Principal
- Michael McCormick, Associate Planner/Project Manager
- William Heppler, Assistant Planner
- John Nadolski, Cultural Resources Specialist
- Jessica Nadolski, Biologist
- Roxanne Perry, Graphic Designer

HIGGINS AND ASSOCIATES, TRAFFIC ENGINEERS – TRAFFIC IMPACT ANALYSIS

- Keith Higgins, Principal
- Frederik Venter, PE., Senior Associate

AMBIENT AIR QUALITY AND NOISE CONSULTING – AIR AND NOISE STUDIES

- Kurt Legleiter, Air Quality & Noise Specialist

CREEGAN + D' ANGELO CONSULTING CIVIL AND STRUCTURAL ENGINEERS – ENGINEERING FEASIBILITY STUDY

- Stanley Kulakow, PE., Vice President/Principal Engineer

THE TWINING LABORATORIES, INC. – PHASE I ESA (221-001-017 AND 221-001-068)

- Max Miljevich, EIT, Environmental Assessor and Philip M. Maquez, Supervisor Phase I ESA's

THE TWINING LABORATORIES, INC. – GEOTECHNICAL FEASIBILITY INVESTIGATION

- Allen H. Harker, PG. – Geotechnical Engineering Division

7.2 REFERENCES/DOCUMENTATION

Alden, P. et.al. National Audubon Society Field Guide to California. Chanticleer Press, Inc. New York, CA. 1998.

AMBAG. Todd Muck. Consistency Request and Response. January 4, 2006

Ambient Air Quality and Noise Consulting. *Air Quality Assessment for the South End Annexation Project*. City of Greenfield. December 2005.

Ambient Air Quality and Noise Consulting. *Environmental Noise Assessment: South End Annexation Project Draft EIR*. December 2005.

Andrus, Dan. Vice Principal. Greenfield High School. Personal Communication with William Heppler. February 22, 2006.

Archaeology of the South Coast Ranges of California. Contributions of the University of California Archaeological Research Facility 34:1-235.

Beck, Warren and Ynez D. Haase. 1974 *Historical Atlas of California*. University of Oklahoma Press, Norman, Oklahoma.

Black, Art. Carmel Fire Protection Associates. City of Greenfield Fire Protection District. Personal Communication with William Heppler, PMC. February 22, 2006.

Breschini, G. S. *Models of Population Movements in Central California Prehistory*. Coyote Press, Salinas. 1983.

Breschini, G. S. and T. Haversat. Baseline Archaeological Studies at Rancho San Carlos, Carmel Valley, Monterey County, California. *Archives of California Prehistory* 36. Coyote Press, Salinas. 1992.

Breschini, Gary S., Trudy Haversat, and R. P. Hampson. A Cultural Resources Overview of the Coast and Coast-Valley Study Areas. Report prepared for the Bureau of Land Management. Archaeological Consulting, Salinas, California. 1983.

Broadbent, S.M. 1951 Field Notes from Site CA-Mnt-101. University of California Archaeological Survey Manuscripts 125.1951b Field Notes from Mnt-107, Berwick Park, Pacific Grove. Manuscript on file at the Pacific Grove Museum, Pacific Grove, California.

California Agricultural Statistics Service. 2002 *Census of Agriculture County Profile, 2002*.

California Department of Conservation. *Farmland of Local Importance Definitions*. 2004.

California Department Of Conservation, Division of Land Resource Protection. *A Guide to Farmland Mapping and Monitoring Program*. 2004

California Department Of Conservation, Division of Land Resource Protection. *California Farmland Conversion Report*. 2000-2002

California Agricultural Statistics Service. *Summary Of Agricultural Commissioners' Reports*. 2002.

California Air Resources Board (ARB). http://www.arb.ca.gov. 2005.

California Air Resources Board (ARB). 2005b. Community Health Air Pollution Information System. http://www.arb.ca.gov/gismo/chapis_v01_6_1_04/chapis_v02.asp

California Air Resources Board (ARB). 2000a. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (2000)

California Air Resources Board (ARB). 2000b. Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines (2000).

California Air Resources Board (ARB). *Air Quality and Land Use Handbook: A Community Health Perspective*. 2005.

California Department of Transportation (Caltrans). *Transportation Project-Level Carbon Monoxide Protocol*. December 1997.

California Department of Transportation. *California Airport Land Use Planning Handbook*. January 2002.

California Scenic Highway System (from webpage at http://www.dot.ca.gov/hq/LandArch/Scenic) California Office of State Landscape Architecture. 2005.

California Department of Water Resources. California Water Plan Update 2005. July 2005.

California State Education Code. http://www.leginfo.ca.gov/calaw.html. December 2005.

California Department of Fish and Game (DFG). California Interagency Wildlife Task Group. CWHR version 8.0 personal computer program. Sacramento, CA. 2002.

California Native Plant Society (CNPS). Inventory of Rare and Endangered Plants. Online Inventory-6th Edition. Sacramento, CA. 2005.

California Integrated Waste Management Board. *Estimated Solid Waste Generation Rates*. http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/. February 2006

Cartier, R. 1993 *The Saunders Site: MNT-391. A Littoral Site of the Early Period*. Scotts Valley Historical Society, Scotts Valley, California.

City of Greenfield. *Greenfield General Plan*. October 2005.

City of Greenfield. *General Plan EIR*. October 2005.

City of Greenfield. *General Plan, Noise Element*. October 2005.

City of Greenfield. *City of Greenfield Zoning Ordinance*. 1981 as updated.

City of Greenfield. W*astewater System Capital Improvement Plan Update*. December 2004.

City of Greenfield. *Water System Capital Improvement Plan Update*. December *2004*.

City of Greenfield. *Wastewater System Expansion Initial Study / Mitigated Negative Declaration*. 2005.

City of Greenfield. *Water System Expansion Initial Study / Mitigated Negative Declaration*. 2005.

City/County Population Estimates, California Department of Finance, January 1, 2005.

Coats Consulting, and the Law Offices of Aaron P. Johnson. Project description, information and plans.

County of Monterey. *Central Salinas Valley Area Plan*. 1987.

County of Monterey. *Monterey County General Plan*. 1982.

Creegan + D'Angelo Consulting Civil and Structural Engineers. Draft Engineering Feasibility Study. December 9, 2005.

DFG. California Natural Diversity Database. CNDDB RareFind version 3.0.3 personal computer program. Sacramento, CA. 2003.

DFG. Wildlife and Habitat Data Analysis Branch. Wildlife Habitats by County. On-line Inventory. Sacramento, CA. 2004.

Dietz, S. A. Archaeological Reconnaissance for Pacific Bell Projects NE1841T and NE1843T Located from Olmsted Road to Torero Drive on Highway 68 and from Jackson Street to Del Monte Avenue and Castroville to Boronda Road on Highway 183, Monterey County, California. Report on file Northwest Information Center, Sonoma State University, Rohnert Park, California. 1985.

Dietz, S. A. and T. L. Jackson. 1981 Report of Archaeological Investigations at Nineteen Archaeological Sites for the Stage I Pacific Grove Monterey Consolidation Project of the Regional Sewage System. Prepared for Engineering-Science, Inc.

Dietz, S. A., W. Hildebrandt, and T. L. Jones. Archaeological Investigations at Elkhorn Slough: CA-MNT-229, a Middle Period Site on the Central California Coast. *Papers in Northern California Anthropology*. Northern California Archaeology Group. Berkeley. 1988.

eNature®. Field Guides Online for the California Central Coast Range, Including Monterey County. www.enature.com. 2005.

Ericksen, Lance. Engineering Division. MBUAPCD Personal Communication With William Heppler, PMC. January 19, 2006.

Federal Emergency Management Agency. *FIRM Flood Hazard Map, Community Panel No. 060195 0375 D*.

Federal Transit Administration. *Transit Noise and Vibration Impact Assessment*. April 1995.

Fritz, J. and C. Smith. Archaeological Overview of Pinnacles National Monument, San Benito County, California. Report prepared for the National Park Service, Tucson, Arizona. 1978.

Grebmeier, Joe. Police Chief. City of Greenfield Police Department. Personal Communication with William Heppler, PMC. February 21, 2006.

Gunn, Dianna. Monterey County Emergency Communications. Personal Communication with William Heppler, PMC. February 23, 2006.

Hester, Thomas R. Salinan. In *California*, edited by R.F. Heizer, pp. 500-504. Handbook of North American Indians Vol. 8, W.C. Strurtevant, general editor. Smithsonian Institute, Washington, D.C. 1978.

Hickman, J., ed. The Jepson manual: Higher Plants of California. University of California Press. Berkeley, CA. 1993.

Higgins Associates. *Traffic Impact Study for Franscioni/Scheid Development, City of Greenfield, CA*. September 28, 2005.

Hildebrandt, W.R. and P. Mikkelsen. Archaeological Test Excavations at Fourteen Sites Along Highways 101 and 152, Santa Clara and San Benito Counties, California, Volume 1. Submitted to Caltrans District 4, Contract No. 0E633-EP. Report S-15442. Report on file Northwest Information Center, Sonoma State University, Rohnert Park, California. 1993.

Hoover, M. B., H. E. Rensch, E. G. Rensch, and W. N. Abeloe. 1990 *Historic Spots in California*. Stanford University Press, Stanford, California.

Jones, T. L. 1993 Big Sur: A Keystone In Central California Culture History. *Pacific Coast Archaeological Society Quarterly* 10:163-186.

Jones, T. L. and M. Hylkema 1988,Two Proposed Projectile Point Types for the Monterey Bay Area: the A□o Nuevo Long-stemmed and the Rossi Square-stemmed. *Journal of California and Great Basin Archaeology* 10:163-186.

Jones, T. L. and D.A. Jones Elkhorn Slough Revisited: Reassessing the Chronology of CA-MNT-229. *Journal of California and Great Basin Anthropology* 14:159-179. 1992.

Jones, T. L., T. Van Bueren, S. Grantham, J. Huddleson, and T. Fung. Phase II Archaeological Investigations for the Castroville Bypass Project, Monterey County, California. Report on file California Department of Transportation, District 5, San Luis Obispo. 1992.

Jones, T. L., T. M. Van Bueren, S. Grantham, J. Huddleson, and T. W. Fung. 1996 Archaeological Test Excavations for the State Highway 1 Widening Project Near Castroville, Monterey, California. Report submitted to Caltrans District 5, San Luis Obispo, California.

M. David Egan, McGraw Hill. *Concepts in Architectural Acoustics*. 1972.

Monterey Bay Unified Air Pollution Control District (MBUAPCD). *CEQA Air Quality Guidelines*. June 2004.

Monterey Bay Unified Air Pollution Control District (MBUAPCD). Permit to Operate 8729B and 4089A.

Monterey Bay Unified Air Pollution Control District (MBUAPCD). url: http://www.mbuapcd.org. 2005.

Monterey County Local Agency Formation Commission. *Standards for the Evaluation of Proposals*. 1994.

Monterey County Water Resources Agency. *Salinas Valley Water Project Draft Environmental Impact Report / Environmental Impact Statement*. June 2001.

Olsen, W.H., L.A. Payen, and J.L. Beck. *An Archaeological Survey of Pinnacles National Monument, San Benito County, California*. Report prepared for the National Park Service, San Francisco, California. 1966.

Patch, D. and T. L. Jones. Paleoenvironmental Change at Elkhorn Slough: Implications for Human Adaptive Strategies. *Journal of California and Great Basin Anthropology* 6(1):19-43. 1984.

Pacific Municipal Consultants (PMC), Cultural Resources Specialist. Cultural and Paleontological Resources Section for the South End EIR. January 2006.

Pacific Municipal Consultants (PMC), *Greenfield South End EIR Biology Report*. January 2006.

Pilling, A. R. Archaeological Survey of Northern Monterey Bay County. *University of California Archaeological Survey Manuscripts* 106. 1948.

Pohorecky, Z.S. *Archaeology of the South Coast Ranges of California*. Unpublished Ph.D. Dissertation, Department of Anthropology, University of California, Berkeley. 1964.

Searson, Cindy. Air Quality Specialist. MBUAPCD. Personal Communication with Kurt Legleiter, AMBIENT Air Quality & Noise Consulting. January 17, 2006.

Site Visit. Pacific Municipal Consultants. October 18, 2005.

Site Visit. Pacific Municipal Consultants Staff. February 15, 2005.

Stokes, D. W. and L. Q. Stokes. *Field Guide to Birds: Western Region*. Little, Brown and Company, Boston, MA. 1996.

Terra Engineering Inc. and Frietas + Freitas. *City of Greenfield Water System Capital Improvement Plan Update*. March 2005.

Terra Engineering Inc. and Frietas + Freitas. *City of Greenfield Wastewater System Capital Improvement Plan Update*. March 2005.

The Twining Laboratories, Inc. *Geotechnical Feasibility Investigation Report*. October 21, 2005.

The Twining Laboratories, Inc. *Phase I Environmental Site Assessment* (APN 221-011-017). October 3, 2005.

The Twining Laboratories, Inc. *Phase I Environmental Site Assessment* (APN 221-011-068). October 3, 2005.

The Rumsen of Monterey: an Ethnography from Historical Sources. *University of California Archaeological Research Facility Contributions* 14. 1972.

United States Department of Agriculture, Soil Conservation Service. *Soil Survey of Monterey County, California*. September 1978.

United States Department of Housing and Urban Development, Office of Community Planning and Development. *The Noise Guidebook*. 1980.

United States Environmental Protection Agency (US EPA). *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. 1971.

United States Environmental Protection Agency (USEPA) url: http://www.epa.gov/ebtpages/airairquality.html. 2005.

U.S. Fish and Wildlife Service (USFWS). *Federal Endangered and Threatened Species that May Be Affected by Projects in Monterey County*. Ventura, CA. 2005.

U.S. Fish and Wildlife Service (USFWS). *Standardized Recommendations for the Protection of the San Joaquin Kit Fox Prior To Or During Ground Disturbance*. Sacramento Fish and Wildlife Office. June 1999.

USFWS. Online Species Account: San Joaquin Kit Fox (*Vulpes macrotis mutica*). Sacramento, CA. 2005.

U.S. Census Bureau. 2000 Census Data.

Williamson Act Maps. Monterey County Planning Department.