FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

WILLOW ROAD EXTENSION/US 101 INTERCHANGE

VOLUME I

State Clearinghouse #: 1995051065

County of San Luis Obispo
County Planning and Building Department
County Government Center
San Luis Obispo, CA 93408

LSA

April 2006

FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

WILLOW ROAD EXTENSION/US 101 INTERCHANGE
COMMUNITY OF NIPOMO
SAN LUIS OBISPO COUNTY, CALIFORNIA

VOLUME I

State Clearinghouse #: 1995051065

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I. INTRODUCTION

I.A. PURPOSE AND TYPE OF EIR

Under the California Environmental Quality Act (CEQA), public agencies are required to evaluate proposed development projects for their effects on the physical environment, and identify any feasible measures that would avoid or lessen significant environmental effects. This is intended to provide disclosure to the public and agency decision-makers of the environmental consequences of a project before action is taken to approve project permits.

The Willow Road Extension/US 101 Interchange project, which includes the extension of Willow Road from Pomeroy Road to Thompson Road, construction of an interchange where Willow Road would cross US 101, and the addition of a frontage road between Willow Road and Sandydale Drive, will be phased or tiered (refer to Section 15385 of the State CEQA guidelines). In 1999, a Tier 1 Final EIR (FEIR) was completed for the Willow Road Extension/US 101 Interchange project (proposed project). The FEIR addressed the potential environmental impacts of two alternative road alignments (Alignment 2 and Alignment 4) as well as two alternative frontage road locations (eastern and western frontage roads). The study was used to assist the County in the selection of the final Willow Road extension and frontage road alignments.

The County of San Luis Obispo, as the Lead Agency under CEQA, has determined that a Supplemental EIR (SEIR) is necessary to address the potential effects on the environment of the preferred alternative. Willow Road Alignment 2 and the eastern frontage road were chosen as the preferred alternative and this document serves as the Tier 2 SEIR. Many of the environmental assessments presented in the Phase/Tier 1 FEIR were sufficient in detail and adequacy for use in the SEIR. For these topics, discussion of environmental effects is incorporated by reference from the 1999 FEIR. However, updated technical studies were required for other environmental topics to address the environmental effects of the more detailed project design.

As an SEIR, this document evaluates changes in the environment resulting from both the construction and operation of the Willow Road Extension/US 101 Interchange project (Section 15161 of the CEQA Guidelines). Only the information necessary to make the previous FEIR adequate and up to date has been included (Section 15163(b) of the CEQA Guidelines).

I.B. CONTENTS OF THE EIR

The EIR contains the following chapters and content:

Chapter I, Introduction: Purpose and type of EIR, contents of the EIR, effects found not to be significant and not analyzed further in the EIR, and required agency approvals.

Chapter II, EIR Summary and Mitigation Monitoring Program (MMP): An overview of the project description, site characteristics, project history and background, project objectives,

alternatives to the proposed project considered, and summary of environmental impacts and mitigation measures. The MMP is a chart itemizing each identified mitigation measure to reduce environmental impacts, including the responsible party and timing of the mitigation requirement.

Chapter III, Project Description: Project history, project location, project objectives, and project description, including the construction and operation of the proposed project.

Chapter IV, Environmental Setting: The setting used for each environmental topic is summarized.

Chapter V, Environmental Analysis: Chapter V constitutes the environmental review of the proposed project for each of the environmental topics described below. The analyses in each topical section include the following information:

Existing Conditions: Identification of the existing physical conditions on the project site and in the vicinity of the site;

Thresholds of Significance: Identification of impact significance guidelines for assessing the severity of identified environmental impacts as well as a discussion of applicable policies, plans, and standards identified for each environmental topic;

Project Impacts: Evaluation of project-related environmental impacts and effects of the current project proposal;

Cumulative Impacts: Evaluation of the long-term environmental impacts and combined effects of the current project proposal and other pending projects in the area;

Mitigation Measures: Description of mitigation measures required to reduce or avoid environmental impacts;

Residual Impacts: Identification of environmental impacts after mitigation has been applied.

The following environmental topics are included in Chapter V:

V.A, Land Use and Planning: Discussion of existing land use conditions, zoning and General Plan land use designations.

V.B, Traffic and Circulation: Construction traffic and detours, and operational long-term project trip generation.

V.C, Noise: Construction and vehicular noise.

V.D, Air Quality: Carbon monoxide "hot spots," increased fugitive dust, emissions and equipment traffic during construction, and decreased vehicle emissions in the long-term.

V.E, Public Services: Impacts to fire protection, police protection, and public utilities.

V.F, Biological Resources: Loss of coast live oak trees, and disruption to wildlife.

V.G, Cultural and Paleontological Resources: Effects to known and unknown archaeological, historic and paleontological resources.

V.H, Agricultural Resources: Effects to agricultural lands, agricultural preserves, and agricultural soils.

V.I, Aesthetics: Public views, on-site visual aesthetics and compatibility, and lighting.

V.J, Geology and Soils: Primary and secondary seismic conditions, including differential consolidation and seismic settlement, liquefaction and lateral spreading, landsliding, and erosion.

V.K, Drainage Erosion and Sedimentation: Drainage patterns, flooding, soil erosion, and water runoff.

V.L, Water Quality: Potential impacts to surface water hydrology, groundwater hydrology, and water quality during and after construction.

V.M, Hazardous Materials: Hazardous materials.

V.N, Socio-Economics: Population, housing, and economic effects.

Chapter VI, Significant Environmental Effects Which Cannot be Avoided: The environmental effects of the proposed project that remain significant after mitigation measures are implemented.

Chapter VII, Significant Irreversible Environmental Changes: Any irreversible uses of non-renewable resources by the proposed project (all phases) are discussed.

Chapter VIII, Alternatives: This chapter provides comparative environmental evaluation of the following alternative site designs and site locations for their potential to avoid or minimize significant environmental impacts while substantially meeting the project's objectives.

- "No Project/No Build" Alternative
- Alternative Project Sites
- Alternative Interchange Designs
- No Interchange Alternatives
- Alternatives Evaluated but Withdrawn from Consideration
- Environmentally Superior Alternative

Chapter IX, Growth Inducing Impacts: Growth inducing factors include the removal of impediments to growth and precedent-setting development. This chapter analyses how growth inducement may impact economics, population, housing, and community services.

Chapter X, Organizations and Persons Contacted: A listing of all persons and organizations contacted as part of preparation of the SEIR.

Chapter XI, References: A listing of all documents utilized in preparation of the SEIR.

I.C. EFFECTS FOUND NOT TO BE SIGNIFICANT IN THE INITIAL STUDY

In 1995, the County prepared an Initial Study in accordance with Section 15082 of the CEQA Guidelines. The Initial Study was included with the Notice of Preparation (NOP) for the Draft EIR (DEIR) and distributed to public agencies that would potentially have comments on the content and analysis to be provided in the DEIR. The information, analysis, and conclusions contained in the

Initial Study were the basis for the County's decision to prepare a Tier 1 EIR to further analyze project impacts. The Initial Study was used to focus the 1999 FEIR on the effects determined to be potentially significant.

The 1995 NOP and Initial Study determined that the proposed project would not have significant environmental effects in the following areas, and therefore these topics were not discussed in the 1999 FEIR. These topics include:

- Mineral Resources
- Recreation

In June 2004, a NOP was distributed regarding the preparation of the current document, the Tier 2 SEIR. This NOP did not identify effects found not to be significant. Instead, it identified the technical studies that will be prepared to address project design requirements now prepared. These technical studies were prepared to address the following environmental topics:

- Biological Resources
- Cultural Resources
- Air Quality
- Noise
- Traffic and Circulation
- Hazardous Waste
- Water Quality

Each of these topics is discussed in detail in this SEIR. All other topics are incorporated by reference from the 1999 FEIR.

I.D. REQUIRED AGENCY APPROVALS

The County of San Luis Obispo, as the designated Lead Agency, has the authority for preparation and certification of this SEIR and approval of subsequent county permits and approvals. These permits are described in Chapter III of this SEIR.

There are also responsible and trustee agencies that have authority over one or more actions involved with the development of the proposed project as follows:

California Department of Transportation (Caltrans): Review and approval of the final interchange design and approval of an encroachment permit for project work within the Caltrans right-of-way.

State Water Resources Control Board (SWRCB): Issuance of a Notice of Intent under the State General Construction Permit for authorization of storm water discharges.

Central Coast Regional Water Quality Control Board (RWQCB): Review of project compliance with the National Pollutant Discharge Elimination System (NPDES) construction permit.

U.S. Army Corps of Engineers (Corps): Notification and consultation regarding potential impacts to Nipomo Creek, review and approval of the Nationwide permit under Section 404 of the Clean Water Act for project work in Nipomo Creek.

California Department of Fish and Game: Review and approval of a Streambed Alteration Agreement under Section 1602 of the Fish and Game Code for project work in Nipomo Creek.

I.E. STANDARDS OF ADEQUACY OF EIR

CEQA Guidelines Section 15151 states that an EIR analysis need not be exhaustive, but that it provide information that enables decision makers to make a decision that intelligently takes into account a project's environmental consequences. Section 15151 notes that disagreement among experts does not invalidate an EIR analysis; however, a summary of any disagreement among experts should be provided. As stated in Section 15151, ". . . the courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."

I.F. PUBLIC REVIEW PROCESS

According to Section 15163(c) of the CEQA Guidelines, SEIRs shall be given the same type of notice and public review as draft EIRs. Therefore, this SEIR is released for public review according to procedures in Section 15105(a) of the CEQA Guidelines. Individuals from the public and agencies have the opportunity to provide written comments on the contents of the SEIR for a period of 45 days. During the public review period, the County Department of Planning and Building will hold a public meeting to provide further opportunity for members of the public and public agencies to verbally comment or request clarification about the proposed project and the SEIR. Upon conclusion of the public review period, written responses will be prepared to address comments on environmental issues in the SEIR. These responses, in addition to any revisions to the text of the SEIR, will be incorporated into the Final SEIR.

Subsequently, public hearings will be held by the County Board of Supervisors to consider certification of the SEIR and related documents, including the Mitigation Monitoring and Reporting Program, Facts and Findings and Statement of Overriding Considerations if necessary.

II. SEIR SUMMARY/MITIGATION MONITORING PROGRAM

II.A. SEIR SUMMARY

1. Project Summary

The County of San Luis Obispo proposes to construct the extension of Willow Road and connect it with US 101 in the community of Nipomo, south San Luis Obispo County. The proposed project includes the extension of Willow Road east from its existing terminus approximately 1,000 feet west of Pomeroy Road to Thompson Avenue; construction of a frontage road between Willow Road and Sandydale Drive; and construction of a new US 101/Willow Road interchange between postmile (PM) 5.75 and PM 6.0. The project represents a part of the long-range circulation improvement program for the South County Planning Area providing an integral component of the area's future transportation network.

In January 1995, the Board of Supervisors considered six alternative alignments for the proposed extension of Willow Road. At that time, the County selected to conduct additional analyses on two of the six alignments, which led to the preparation of a Tier 1 Environmental Impact Report. In 1998, a Tier 1 Environmental Impact Report (FEIR) for the Willow Road Extension/Highway 101 Interchange project was completed and released for public review. In March 1999, the FEIR was adopted by the County Board of Supervisors and a preferred alignment and interchange were selected. The FEIR specified that subsequent design refinements for the road extension, interchange, and frontage road would be evaluated in a Tier 2 construction-level environmental document.

The County prepared this Supplemental Environmental Impact Report (SEIR) to satisfy the requirements for evaluating the preferred project alternative in a Tier 2 construction-level environmental document. This second-tier environmental evaluation of the proposed project, its impacts, and the prescribed mitigation measures are summarized on the following pages.

2. Summary of Impacts and Mitigation Measures

The following summary of potential project impacts and prescribed mitigation measures (Table II-1) is arranged pursuant to the issues discussed in Section V, Environmental Analysis, of this SEIR. This summary also identifies the residual impacts after implementation of the proposed project mitigation measures. These residual impacts are classified according to the following criteria:

- **Class I Impact -** Significant and unavoidable adverse impacts that cannot be mitigated to a level of insignificance. Although mitigation measures may be prescribed, these measures are not sufficient to reduce project impacts to a less than significant level.
- **Class II Impacts -** Potentially significant adverse impacts which can be reduced to a less than significant level or avoided entirely with the implementation of prescribed mitigation measures.
- **Class III Impacts -** Adverse impacts which are found to be less than significant for which mitigation measures may be applied but are not required.

- **Class IV Impacts -** Project impacts which are considered to be positive or of benefit to the site or the adjacent environment.

These residual impacts are also summarized by environmental topic in Table II-2 "Summary of Residual Impacts after Mitigation" following Table II-1.

Table II-1: Summary of Impacts and Mitigation Measures

Description of Impact	Mitigation Measure Summary	Residual Impact
A. LAND USE AND PLANNING		
The proposed project has the potential to significantly impact lands currently used for agriculture.	**H-1, Agricultural Vehicle Crossings.** The County of San Luis Obispo Department of Public Works shall ensure that all project roadways which traverse any lands under cultivation shall provide an adequate number of at-grade agricultural vehicle crossings. These concrete road crossings shall be striped and marked with appropriate signage to warn motorists of the potential for agricultural vehicles on the roadway and shall be located to provide safe vehicle distance.	Implementation of Mitigation Measure H-1 reduces potentially significant impacts of agricultural production to less than significant **(Class III Impact).**
Some property acquisition will be required; however, nurseries, open space, recreation, and residential land uses in the project vicinity will not be functionally impacted.	No mitigation measures necessary	No Impact **(Class III Impact)**.
The proposed road extension east of US 101 could disturb riparian habitat and jurisdictional waters of the U.S. associated with Nipomo Creek.	See Mitigation Measures F-1 through F-3, F-5 through F-7, F-17 through F-19, F-21, F-24 and F-25 below	Implementation of Mitigation Measures F-1 through F-3, F-5 through F-7, F-17 through F-19, F-21, F-24 and F-25 reduces impacts to riparian habitat and Nipomo Creek to less than significant **(Class II Impact)**.
The proposed road extension would result in significant unavoidable adverse impacts to two agricultural preserves.	There are no feasible mitigation measures to reduce impacts to agricultural preserves	Impacts to two agricultural preserves will be significant, unavoidable, and adverse **(Class I Impact)**.

The proposed project's contribution to cumulative impacts on agricultural resources could be significant, unavoidable and adverse.	There are no feasible mitigation measures to reduce cumulative impacts to agricultural resources	Cumulative impacts to agricultural resources will be significant, unavoidable, and adverse **(Class I Impact)**.
The proposed project is consistent with long-range land use planning as included in the Land Use and Circulation Elements of the San Luis Obispo County General Plan.	No mitigation measures necessary	No Impact **(Class III Impact)**.
By removing impediments to growth, the proposed project will hasten the conversion of existing vacant and agricultural land to more developed uses. This growth-inducing effect would be significant, unavoidable and adverse.	There are no feasible mitigation measures to reduce the growth-inducing impacts of the proposed project	Growth-inducing impacts to agricultural or vacant land will be significant, unavoidable and adverse **(Class I Impact)**.
B. TRAFFIC AND CIRCULATION		
The proposed project has the potential to positively impact Levels of Service (LOS) and average vehicle delays at several existing intersections in and around the project area on a project specific as well as cumulative basis.	No mitigation measures necessary	This project will result in beneficial impacts on traffic and circulation **(Class IV impact).**
In the future, there is a potential for unacceptable LOS at the US 101/Willow Road interchange.	**B-1, Willow Road Facilities Design.** Design features of the Willow Road facilities should not preclude a second ramp lane from being added to the US 101 northbound on- and off-ramps. Prior to approval of final design, the County Department of Public Works shall ensure that the design could accommodate such future ramp lanes.	With implementation of Mitigation Measure B-1, potential impacts at the future US 101/Willow Road interchange will be reduced to less than significant **(Class II Impact)**.
C. NOISE		
Construction crew commutes and the transport of construction equipment and materials to the project	No mitigation measures necessary	No Impact **(Class III Impact)**.

site would incrementally raise noise levels on access roads leading to the site, but only for short periods of time. The projected construction traffic trips will be relatively few and of short duration. Therefore, short-term construction related worker commutes and equipment transport noise impacts would be less than significant. Short-term construction-related noise has the potential to significantly impact residences (sensitive receptors) within 15 m (50 ft) from the project area. These residences may be subject to construction-related noise exceeding the County standard for exterior noise (60 dBA L_{dn}).	**C-1, Construction Hours.** The County shall restrict construction activities to the hours between 7:00 a.m. and 9:00 p.m. on Monday through Friday and 9 a.m. to 5 p.m. on Saturdays and Sundays. These restrictions would generally reduce the impact of construction-related noise impacts on existing residences and other land-uses. **C-2, Caltrans Sound Control Requirements.** To minimize the construction related noise impacts for existing residences adjacent to the project site, the County shall ensure that the project follows Caltrans Standard Specifications, Section 7-10/I, "Sound Control Requirements." This condition shall be included in the construction plan specifications. **C-3, Construction Noise Restrictions**. a. The County shall ensure that the contractor shall provide training for all crew members regarding all requirements to minimize construction related noise impacts. This condition shall be included in the construction plan specifications. b. The County shall require the construction of	Residents within 50 feet of the proposed project will experience significant short-term noise impacts generated from the construction equipment used to build the proposed road. Proposed Mitigation Measures C-1 through C-5 will reduce the duration and severity of the noise. However, because construction operations are short-term/temporary, the impact associated with the construction-related noise is considered to be a less than significant **(Class II Impact)**.

	temporary barriers where construction activities will be conducted near residential receptors, and where complaints have been received. This condition shall be included in the construction plan specifications. **C-4, Portable Equipment.** The County shall ensure that portable equipment is located as far as possible from the noise sensitive locations as is feasible. This condition shall be included in the construction plan specifications. **C-5, Staging Areas.** The County shall ensure that the construction vehicle staging areas and equipment maintenance areas are located as far as possible from sensitive receptor locations. This condition shall be included in the construction plan specifications. **C-6, Internal Combustion Engine Mufflers.** The County shall ensure that each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without the muffler. This condition shall be included in the construction plan specifications.	
The proposed project will generate automobile traffic, a long-term source of noise that will alter future noise levels in the surrounding area. The proposed project will subject existing residences to long-term noise levels that exceed the County standard for exterior noise (60 dBA L_{dn}).	The following mitigation measures shall be implemented by the County to reduce certain long-term noise impacts associated with the proposed project: **C-7, Sound Barrier No. 1.** The County shall build a sound wall ten feet high and approximately 129 feet long within the proposed County right-of-way along the north side of Willow Road between Guadalupe and Pomeroy	At ten receptor locations, increased traffic on the proposed Willow Road extension will cause noise levels to exceed the County's exterior noise standard. Sound barriers (Mitigation Measures C-7, C-8, and C-9) can feasibly reduce these noise levels

	Road to protect receptor location #1 (R-1). **C-8, Sound Barrier No. 2.** The County shall build a sound wall 8 feet high and approximately 318 feet long within the proposed County right-of-way along Willow Road west of Hetrick Avenue to protect receptor location #8 (R-8). **C-9, Sound Barrier No. 3.** The County shall build a sound wall six feet high and approximately 259 feet long within the proposed County right-of-way along Cherokee Place east of Hetrick Avenue to protect receptor location #15 (R-15).	to below the County exterior threshold at three receptor sites **(Class II Impact)**. It is not feasible to provide sound barriers at the other seven receptor locations and therefore they will experience significant, unavoidable, adverse impacts **(Class I Impact)**.
Cumulative short-term noise impacts could result in localized noise impacts if construction of one or more of the projects on the cumulative projects list is occurring in the same space and at the same time as the proposed project. If this occurs, short-term noise impacts could be significant but would be restricted to areas immediately adjacent to the particular project under construction. Because the short-term, construction-related impacts associated with the cumulative projects list are limited in space and time, these impacts are not considered to be significant over the long-term.	No mitigation measures necessary	No Impact **(Class III Impact)**.
Long-term noise level increases associated with the proposed project, when considered in conjunction with the list of cumulative projects, are considered to be significant along Willow Road. However, since the proposed project will result in a redistribution of vehicle traffic in the study area	No mitigation measures necessary.	No Impact **(Class III Impact)**.

roadway system, the proposed project will not directly alter the regional or cumulative noise conditions.		
D. AIR QUALITY Construction equipment emissions would not exceed the daily thresholds for any of the criteria pollutants: NO_X, ROG, CO, SO_X and PM_{10}. Therefore, short-term air quality impacts associated with project construction will be less than significant.	No mitigation measures necessary	No Impact **(Class III Impact)**.
Combustion emissions and fugitive dust will be generated by the use of construction equipment and during earthmoving operations while the proposed project is being constructed.	**D-1, APCD Asphalt Paving Regulations.** The construction contractor shall adhere to the requirements of APCD rules and regulations on cutback and emulsified asphalt paving materials. Prior to application, the County shall contact APCD for verification. **D-2, Pre-Construction Asbestos Detection Program.** Prior to the start of any construction activities, the County shall conduct borings in the project area to test for the occurrence of ultramafic or asbestos containing materials. In the event that ultramafic or asbestos containing materials are discovered, the County shall comply with all requirements outlined in the Asbestos ATCM for Construction, Grading, Quarrying and Surface Mining Operations. These requirements may include, but are not limited to preparation of: 1) an Asbestos Dust Mitigation Plan that shall be approved by the APCD before construction begins, and 2) an Asbestos Health and Safety Program in accordance with the California Air Resources Board regulations. This program shall be prepared and reviewed as part of the final plan check. This condition	With implementation of standard conditions D-1 through D-16, the project's potential short-term air quality impacts will be reduced to less than significant **(Class II Impact)**.

	shall be included in the construction plan specifications. **D-3, Procedure for Handling Unanticipated Discoveries of Asbestos.** In the event of the discovery of ultramafic or asbestos containing materials during construction, construction operations in the affected area should cease immediately and the County shall comply with all requirements outlined in the Asbestos ATCM for Construction, Grading, Quarrying and Surface Mining Operations. These requirements may include, but are not limited to preparation of: 1) an Asbestos Dust Mitigation Plan that shall be approved by the APCD before construction gets back underway, and 2) an Asbestos Health and Safety Program in accordance with the California Air Resources Board regulations. This program shall be prepared and reviewed as part of the final plan check. This condition shall be included in the construction plan specifications. **D-4, ARB Certified Equipment.** Maximize to the extent feasible the use of diesel construction equipment meeting the ARB's 1996 or newer certification standard for off-road heavy-duty diesel engines during any construction activities. This condition shall be included in the construction plan specifications. **D-5, Installation of Emission Reduction Devices.** The contractors shall install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF), or other District-approved emission-reduction retrofit devices prior to construction activities. The ARB has recently verified DOC and CDPF systems for HD diesel vehicles. DOCs have control efficiencies on the order of 25 percent, while	

	CDPFs can achieve diesel PM reductions of 85 percent or better. In general, DOCs are effective at reducing the fine particle component, while CDPFs are effective at reducing both the fine particle and larger black soot components. Manufacturer data indicates that both types of devices can reduce about 90 percent of CO emissions and 50 to 70 percent of ROG emissions, some being a portion of the diesel PM component. Some devices/systems are being developed that have the added benefit of being able to reduce NOx emissions. Determination of the appropriate CBACT control device(s) for the project must be performed in consultation with APCD staff. This condition shall be included in the construction plan specifications. **D-6, Construction Activity Management Plan.** The contractor shall develop a comprehensive construction activity management plan designed to minimize the amount of large construction equipment operating during any given time period prior to construction activities. This condition shall be included in the construction plan specifications. **D-7, Construction Truck Trips.** The contractor shall schedule construction truck trips during non-peak hours to reduce peak hour emissions prior to and during any construction activities. This condition shall be included in the construction plan specifications. **D-8, Construction Work-Day.** The County shall limit the length of the construction work-day period, if necessary. This condition shall be included in the construction plan specifications.	

	D-9, Construction Phasing. The County shall phase construction activities, if appropriate so that fugitive dust and other emissions being generated do not exceed daily thresholds. Construction phasing shall be planned and reviewed as part of the final design. **D-10, PM_{10} and Dust Emissions Reduction.** Proper implementation of the following measures during construction activities will achieve a significant reduction in PM_{10} emissions. All PM_{10} mitigation measures required shall be included on grading and building plans. In addition, the contractor must designate a monitor for the dust control program and order increased watering, as necessary, to prevent transport of dust off site. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to land use clearance for map recordation and land use clearance for finish grading of the structure. a. Reduce the amount of the disturbed area where possible. b. Use water trucks or sprinkler systems to prevent airborne dust from leaving the site. Increase watering frequency whenever wind speed exceeds 15 mph. Reclaimed (nonpotable) water should be used whenever possible. c. Spray all dirt stock-pile areas daily as needed. d. Implement permanent dust control measures identified in the approved	

	project revegetation and landscape plans as soon as possible following completion of any soil-disturbing activities. e. Sow exposed ground areas that are planned to be reworked at dates more than one month after initial grading with a fast-germinating native grass seed, and water until vegetation is established. f. Stabilize all disturbed soil areas not subject to revegetation using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD. g. Complete all roadways, driveways, sidewalks, etc., to be paved as soon as possible. In addition, lay building pads as soon as possible after grading unless seeding or soil binders are used. h. Construction vehicles shall not exceed a speed of 15 mph on any unpaved surface at the construction site. SLOAPCD CEQA Air Quality Handbook 2003 i. Cover trucks hauling dirt, sand, soil, or other loose materials or maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114. j. Install wheel washers where vehicles enter and exit unpaved roads, or wash off	

	trucks and equipment leaving the site. k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Use water sweepers with reclaimed water where feasible. The construction contractor shall adhere to the requirements of APCD CEQA Air Quality Handbook to reduce fugitive dust emissions. The Best Available Control Technologies for construction equipment (CBACT) shall be adhered to during the project construction. **D-11, Well -Tuned, Efficient Equipment.** Prior approval of any grading permits, the construction contractor shall select the construction equipment used on site based on low emission factors and high energy efficiency. The contractor shall also ensure that all construction equipment is maintained in proper tune according to manufacturer's specification prior to and during any construction activities. The County shall ensure that construction grading plans include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer's specifications. **D-12, Alternative-Fuel-Powered Equipment.** The construction contractor shall utilize electric or alternative-fuel powered equipment in lieu of gasoline and diesel powered engines where feasible during construction activities. This condition shall be included in the construction plan specifications.	

	D-13, ARB-Certified Fuel. The contractor shall ensure that all off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, are powered with ARB-certified motor vehicle diesel fuel (non-taxed version suitable for off-road use) during any construction activities. This condition shall be included in the construction plan specifications. **D-14, Equipment Shut Off.** Prior to approval of grading permits, the construction contractor shall ensure that construction grading plans include a statement that work crews will shut off equipment when not in use. This condition shall be included in the construction plan specifications. **D-15, Construction Timing.** During construction activities, the construction contractor shall time the construction activities so as not to interfere with peak hour traffic and to minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flag-person shall be retained to maintain safety adjacent to existing roadways. This condition shall be included in the construction plan specifications. **D-16, Ridesharing.** The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew during construction activities. This condition shall be included in the construction plan specifications.	

It is assumed that no more than three acres of land would be under construction or exposed at any point in time during the construction of the proposed project. Additionally, the project is underlain by medium-to fine-grained, well sorted sand that is less subject to dust emissions than typical soils. Therefore, fugitive dust emissions during project construction will be less than significant.	See standard conditions D-2, D-3, D-4, D-5, D-9, and D-10 above.	With the implementation of standard conditions D-2, D-3, D-4, D-5, D-9, and D-10, the proposed project's construction-related impacts for fugitive dust emissions will be less than significant **(Class II Impact)**.
San Luis Obispo is among the counties listed as containing serpentine and ultramafic rock. The General Location Guide for Ultramafic Rocks in California shows no areas of natural occurring asbestos (NOA) in the project vicinity. However, in the unforeseen event of the discovery of ultramafic or asbestos containing materials, the County shall comply with all requirements outlined in the Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations. If County requirements are followed, he impacts from naturally occurring asbestos during project construction will be less than significant.	See standard condition D-2 and D-3 above.	With implementation of standard condition D-2 and D-3, the construction-related impacts from naturally occurring asbestos will be less than significant **(Class II Impact)**.
No Carbon Monoxide (CO) levels would exceed the federal and State on-hour and eight-hour standards, therefore, no CO hot spots would occur as a result of the proposed project.	No mitigation measures necessary	No Impact **(Class III Impact)**.
Implementation of the proposed project will not cause a significant increase in toxic air constituents such as exhaust from diesel engines.	See standard conditions D-4 through D-7, D-9, D-11 through D-14 above	With implementation of standard conditions D-4 through D-7, D-9, and D-11 through D-14, the

		project's impacts on diesel toxics will be less than significant **(Class II)**.
The proposed project will not significantly contribute to or cause deterioration of existing air quality. Therefore, the proposed project is consistent with the San Luis Obispo Council of Government's (SLOCOG) Clean Air Plan. Hence, no mitigation measures are required for the long-term operation of the project in order to meet SLOCOG's Clean Air Plan.	No mitigation measures necessary	Long-term air quality impacts on both a local and regional level will benefit from the improved traffic circulation and reduced traffic congestion associated with the proposed project **(Class IV Impact)**.
The proposed project is projected to have beneficial long-term effects on air quality since it will improve traffic flow and reduce delay and congestion.	No mitigation measures necessary	Long-term air quality impacts on both a local and regional level will benefit from the improved traffic circulation and reduced traffic congestion associated with the proposed project **(Class IV Impact)**.
The completion of the proposed cumulative projects should not add appreciable quantities of pollutants to the regional airshed. In addition, the proposed project is expected to reduce air pollution associated with automobile traffic in the project area due to improved traffic flow efficiencies at study area intersections. Therefore, the proposed project will have a less than significant contribution to the cumulative impact on the region's air quality conditions.	No mitigation measures necessary	The proposed project's contribution to the cumulative air quality will be less than significant **(Class II Impact)**.

E. PUBLIC SERVICES		
Police Protection. The proposed project will lead to improved vehicular access to the Nipomo area which will assist law enforcement efforts. However, the project will also represent added patrol responsibilities, create opportunities for people to congregate, and provide a new roadway that would lead to unlit open space.	**E-1, Emergency Access.** The San Luis Obispo County Sheriff's Department shall review final project design plans of all project facilities and shall advise the County Public Works Department as to adequate emergency access and surveillance needs for Sheriff patrol cars. The County Public Works Department shall submit the final design plans to the Sheriff's Department prior to approval of final project design plans.	Impacts to police protection and emergency response services will be reduced to less than significant levels with implementation of Mitigation Measure E-1 **(Class II Impact)**.
Fire Protection. Improved vehicular access resulting from the proposed project will be beneficial to fire protection and emergency services. The proposed project will result in a reduction of traffic congestion thereby reducing accident potential. However, roadways provide the opportunity for sparks and other combustibles from cars which can ignite fires on the side of roadways.	**E-2, Fuel Reduction.** Prior to the approval of final project design plans of all project facilities, a Fuel Reduction Plan shall be submitted to the San Luis Obispo County Fire Department by the County Public Works Department for review and approval. This plan will provide for adequate brush clearance and vegetation removal pursuant to Fire Department and California Department of Forestry standards while preserving as much of the natural habitat as possible. This plan shall also provide a long-term maintenance program for these cleared areas.	Impacts to fire protection services will be reduced to less than significant levels with implementation of Mitigation Measure E-2 **(Class II Impact)**.
Public Utilities. The proposed project has the potential to impact utilities through utilization of roadway lighting at intersections and the US 101 interchange. This additional energy consumption is considered minimal and will not cause a significant impact. Construction has the potential to disturb underground natural gas and/or electrical service mains, water or sewer mains, and telephone or cable television lines.	**E-3, Existing Service Mains.** The County Department of Public Works shall submit the final project design plans to the Southern California Gas Company, Pacific Gas and Electric Company, the Nipomo Community Services District, Pacific Bell, State of California, Department of Water Resources and the local cable television provider for review no less than 90 days prior to construction in order to identify the location of existing service mains, provide for and necessary relocation of facilities and prevent any unexpected service interruptions.	Impacts to public utilities during construction will be reduced to less than significant levels with the implementation of Mitigation Measures E-3 and E-4 **(Class II Impact)**.

	E-4, Construction Notification. The County Department of Public Works shall ensure that all project plans and specifications include the following note: "Please telephone Underground Service Alert (USA) toll free at 1-800-642-2444 forty-eight hours prior to the start of construction. For best response, provide as much notice as possible, up to ten working days". This notification will allow adequate time to locate and mark existing utility facilities.	
Solid Waste. The proposed project will generate construction debris from breakup and demolition of existing road asphalt and other hardscape. Excess soil from grading activities will also be generated. Construction debris is proposed to be recycled at close to 100 percent. Excess cut soil from construction will be stockpiled for use on other County projects. Therefore, little or no construction debris or excess cut soil would require deposition at county landfills.	**E-5, Stockpiling of Cut Soils**. Prior to stockpiling of soil from project generated activities, the County Department of Public Works shall ensure that a designated soil stockpile location will be reviewed for sensitive resources prior to placement of any soils.	With implementation of Mitigation Measure E-5, solid waste impacts from the proposed project will be less than significant **(Class II Impact)**.
Cumulative Public Services and Utilities Impacts. The proposed project represents a minor incremental increase in the demand for public services. However, the potential adverse impacts are outweighed by the benefit of emergency access and traffic safety. The project will not require additional utility lines and additional energy consumption is considered minimal. Additionally, the project's contribution to the County landfill capacity and operations will be less than significant. Therefore, the proposed project's contribution to the cumulative impact on public	No mitigation measures necessary	The project does not add significantly to cumulative impacts on public services, on utilities, or to County landfill capacity and operations **(Class III Impact)**.

services, utilities, and County landfill capacity and operations is less than significant.		
F. BIOLOGICAL RESOURCES **Impacts to Sensitive Species** If sensitive species are present within the project boundaries, there is a potential for construction activities to kill or injure individuals. In addition, vegetation removal within the project boundary will remove potential foraging, breeding, and denning habitat for these species. Sensitive wildlife in the vicinity of the project would be subjected to construction/operating noise, high-intensity lighting, storm water runoff erosion/sedimentation, urban pests, and invasive plant material. In addition, removing or altering habitat during construction would result in the direct loss or displacement of wildlife within the project area.	**F-1, Construction Fencing.** All construction-related activities shall be confined to the proposed boundaries by installing construction fencing along the boundary prior to any ground disturbance to prevent any construction activities from encroaching into adjacent areas. All construction staging will occur within the proposed roadway or in existing developed areas as these areas are less likely to contain habitat suitable for sensitive species. Project construction plans shall include this measure in the specifications. All fencing shall remain in good working order for the duration of all construction-related activities. All-weather signs stating "Sensitive Area – Stay Out" shall be posted every 50 feet. **F-2, Project Biologist.** Prior to initiating construction, the California Department of Transportation (Caltrans) and the County shall designate a qualified project biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities in association with project construction in accordance with the adopted mitigation measures and applicable law. **F-3, Biological Monitor.** Prior to initiating construction, the County shall designate a qualified biologist to monitor all construction activities within and adjacent to native habitats to ensure that construction does not encroach into these areas.	Impacts to sensitive species will be reduced to a level that is less than significant by implementing Mitigation Measures F-1 through F-13, and F-18 **(Class II Impact)**.

	F-4, Vegetation Removal Restriction/Nesting Birds. During construction, vegetation removal or construction activities shall not occur during the primary nesting season for local birds (April 1–August 31) where oak woodlands, wetlands, and maritime chaparral occur on, or adjacent to, the proposed project. If vegetation removal or construction activities must occur in these areas during this period, then preconstruction surveys shall be conducted in the appropriate habitats within and adjacent to the project boundary to identify nesting birds within or adjacent to the proposed project. If active nests are observed within or adjacent to the project boundary then a buffer is required until either the young have fledged or the nest becomes inactive. The preconstruction survey limits and buffer shall be designated by the project biologist prior to construction in the affected nesting areas. Limits and buffers shall be clearly marked in the field and shown on applicable construction plans. **F-5, Monitoring Reports.** During construction, the project biologist shall provide quarterly monitoring reports documenting compliance with the avoidance and minimization measures, and shall submit the mitigation report to Caltrans, the County, and the appropriate resource agencies. All recommended remedial work shall be completed within 30 days of identification unless the qualified biologist determines another time is more biologically appropriate. **F-6, Avoidance of Work During the Rainy Season.** Construction activities in the Nipomo Creek area shall occur outside the rainy season to minimize sedimentation within the drainage. Project construction plans shall	

	include this measure in the specifications. **F-7, Sensitive Habitat Buffers.** Permanent fences or other approved methods (such as planting suitable native trees and shrubs in the buffer area between the side of the road and native habitats) shall be used to discourage off-road disturbance from pedestrians and vehicles in sensitive habitat areas. Project construction plans shall include these measures in the specifications. **F-8, Non-Native Vegetation Removal.** The construction contractor and project biologist shall ensure that no nonnative plant material shall be brought onto the construction site. Due to the vegetative reproduction characteristics of the species in Table C of the Biological Resources Analysis (Appendix E) any occurrence of these species shall be removed from the site prior to vegetation-clearing activities at the direction of the project biologist. In addition, the potential for contribution of funds to programs, such as the removal of invasive species from riparian habitats like Nipomo Creek, should be considered in the mitigation and monitoring plan. The following measures shall be used as applicable to minimize impacts from non-native vegetation: • Prior to exotic plant removal, the County shall retain a qualified biologist to conduct focused protocol surveys to determine the presence or absence of sensitive species within the area slated for exotic vegetation removal. • If sensitive species are observed within the areas slated for exotic vegetation removal, then consultation	

	with the USFWS shall be required prior to implementing any work activities. • Exotic weed removal shall be completed during the fall and winter months. All material removed shall be bagged and disposed of at a landfill. • All exotic weed removal activities shall be monitored by a qualified biologist. • The County shall ensure that the habitat enhancement site is kept free of exotic reintroduction for a period of five years following the completion of the exotic plant removal. • All seed mixes used for erosion control purposes shall be native or considered non-aggressive by a qualified biologist and shown on all applicable plans. **F-9, Preconstruction Surveys.** The project biologist shall perform preconstruction surveys in appropriate habitats, within and adjacent to the project boundary, for sensitive species, such as the California horned lizard. If sensitive species are found within the preconstruction survey area, a qualified biological monitor (qualified to handle species, when required), designated by the County, should be present during vegetation clearing and grading activities to capture and relocate any sensitive wildlife species. **F-10, Bat Biologist.** As the project area has the potential to provide suitable bat habitat, during the spring and summer (May–August) and prior to vegetation removal or alteration of existing structures, the County shall designate a qualified bat biologist to survey all potential roosting	

	habitat proposed for removal by the proposed construction. If a roost is found, the bats shall be discouraged from returning to their roosting area and the resource removed immediately so that the bats cannot return and would be forced to find alternative roost sites. Since each roost situation is different, the qualified bat biologist shall determine the manner of exclusion. Tree removal shall be completed between September and November or March to April to avoid hibernating bats (December–February) and maternity season (May–August) if feasible. If tree removal must occur during hibernating or maternity season, then the designated qualified bat biologist shall conduct surveys prior to tree removal to determine if hibernating or maternity bats are present within or adjacent to the project limits. The limits of the buffer will be determined by the bat biologist. If they are present, then the bat biologist shall designate a buffer around the location where tree removal cannot occur until the bats have finished hibernating or the young have left the roost. If hibernating or maternity bats are not present, then tree removal shall be initiated within 30 days of the survey. **F-11, Temporary and Long-Term Lighting Minimization.** During construction, if deemed necessary by the project biologist, lighting screens shall be used to reduce light pollution during evening construction. In addition, construction crews shall also reduce the number of times the lights are turned on and off to avoid sudden changes that may disturb wildlife and/or wildlife movement. The use of long-term lights on the proposed road shall be minimized to reduce impacts of the proposed	

	road on sensitive wildlife species. Any lights at the interchange shall contain low light features where feasible, including (1) low-intensity street lamps, (2) lower elevation street poles, or (3) shielding by internal silvering of globes or external opaque reflectors. **F-12, Pismo Clarkia Surveys.** The final project boundary shall be surveyed by the project biologist as designated by the County, during the blooming period for Pismo clarkia (May–July) prior to issuing the construction contract. If surveys locate Pismo clarkia within the portion of the project with federal involvement then a Biological Assessment would need to be prepared and submitted to the USFWS and CDFG and applicable requirements of the Federal and California Endangered Species Acts would need to be met prior to any construction or site preparation activities. A preservation plan shall be prepared that, at a minimum, would result in no net loss of the plant. If the Pismo clarkia is observed in the remaining project boundaries, the appropriate permit must be obtained from the CDFG. **F-13, California Red-Legged Frog.** Construction activities in the Nipomo Creek area shall occur outside the rainy season to ensure that the proposed project will not impact the California red-legged frog. If construction must occur during the rainy season, then focused protocol surveys shall be conducted within and adjacent to the project area to determine whether this species is present. If red-legged frogs are found within the project limits, additional measures shall be developed in coordination with the USFWS to avoid impacts to this species during construction. These measures shall include the	

	preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and Best Management Practices (BMPs). **F-18, SWPPP and BMPs.** Construction activities within or adjacent to drainages and Nipomo Creek (including roadside ditches that discharge to Nipomo Creek) should occur outside the rainy season (October–May) to ensure that construction activities do not cause sedimentation of the creek. If construction must occur during the rainy season, then the SWPPP shall be prepared and construction site BMPs shall be installed before any construction begins to include measures to keep sediment out of Nipomo creek during storm events (for example, excavation spoils being stored and trapped outside the creek, and siltation basins installed down-gradient). In addition, the SWPPP and BMPs will identify measures to restrict dust.	
Construction activities in Nipomo Creek may impact the **California red-legged frog**.	See Mitigation Measures L-1, L-3, F-9, F-11, F-13, and F-18 above	Potential impacts to the California red-legged frog will be reduced to a level that is less than significant by implementing Mitigation Measures L-1, L-3, F-9, F-11, F-13, and F-18 **(Class II Impact)**.
The **South/Central Coast Steelhead** is not expected to occur within the study area and will not be impacted by the proposed project.	No mitigation measures necessary	No Impact **(Class III Impact)**.
Surveys for **Pismo Clarkia** have not located any of these sensitive plants within the project area.	See Mitigation Measure F-12 above	Implementation of Mitigation Measure F-12 will reduce the

However, because of limitations with the previous plant surveys, the presence of this species within the project boundary cannot be definitively ruled out. Therefore, there is a potential to impact Pismo Clarkia.		proposed project's potential impacts on **Pismo Clarkia** to less than significant levels **(Class II Impact)**.
The project could impact **sensitive plant species** within the project boundary. Mitigation measures will reduce impacts to these species to less than significant.	See Mitigation Measure F-12 above **F14, Trash Disposal.** The contractor shall ensure that trash and debris deposits adjacent to native habitats shall be disposed of daily during construction to reduce impacts to sensitive habitats, such as maritime chaparral and oak woodland. Project construction plans shall include this measure in the specifications. **F-16, Habitat Creation, Conservation, and Enhancement Plan.** A Habitat Creation, Conservation and Enhancement Plan shall be prepared to mitigate maritime chaparral and oak woodland habitats, as well as any riparian habitats associated with Nipomo Creek, impacted or removed during construction in accordance with agency and County requirements. This Habitat Creation, Conservation and Enhancement Plan shall be prepared and at least initially implemented prior to initiation of construction. The plan shall discuss not only the creation, conservation, or enhancement of habitat, but the re-creation, conservation, or enhancement of the original ecological function of habitats impacted by the project. To accomplish this, the plan shall include identification of areas where native habitats are to be restored, conserved, or enhanced or other means of ensuring no net loss of sensitive native habitats. In addition, this plan shall identify the potential occurrence	Impacts to sensitive species will be reduced to less than significant with implementation of measures F-12, F-14, and F-16 **(Class II Impact)**.

	of the sensitive plant species such as sand almond, sand mesa manzanita, and California spineflower to provide the opportunity to include the mitigation for project-related impacts to these sensitive botanical resources. Three options have been identified to mitigate for impacts to oak woodland and maritime chaparral. These options include habitat creation, habitat conservation and habitat enhancement all of which may be used individually or in combination to fulfill the mitigation requirements for the impacts to both the sensitive habitat types and individual oak trees associated with this project. The following mitigation ratios shall be applied for the various options: • Habitat creation shall be implemented at a 1:1 ratio. This option provides an opportunity to replace impacted chaparral and fulfill the County tree replacement standards by planting oak trees for habitat creation. • Sensitive habitat conservation shall be implemented at a 1:1 ratio. In addition, enhancement of the area set aside for conservation with new plantings provides an opportunity to fulfill the County tree replacement standard, as along as other existing sensitive habitats are not displaced from planted trees at maturity. • Habitat enhancement shall be implemented at a 2:1 ratio as this option includes sensitive habitats that are already been owned by the County and preserved that are not part of any other mitigation program. This option may provides an opportunity to fulfill the County tree replacement standards by planting oak trees to where existing habitat is considered degraded	

	or non-native. Additional details, as described below, shall be incorporated into the plan where applicable to assist in the success of each of the mitigation options. **Habitat Creation** • Oak trees should be replaced using locally collected acorns or other propagules, preferably collected from within the area of the proposed construction. • Sensitive plant species, including sand almond, sand mesa manzanita, and California spineflower shall be propagated from local seed stock, preferably from seed or propagules salvaged from within the proposed alignment. • Sufficient topsoil shall be stockpiled for use in the revegetation areas. and • Grazing or other vegetation-disturbing activities shall not be permitted within areas proposed as mitigation. • These areas would be set aside in perpetuity after creation. • Monitoring by a qualified individual for no less than three years. **Habitat Conservation** • A conservation easement shall be selected to preserve a larger area of high-quality sensitive habitat that contains the same sensitive species, specifically the sand almond, sand mesa manzanita, and California	

	spineflower, at similar population levels as will be impacted by the proposed project. • The development rights of the property shall be relinquished to another entity that has its primary purpose the preservation, protection, or enhancement of land in its natural condition or use; the CDFG; or to another State or local government entity if otherwise authorized to acquire and hold title to real property. • The easement should be created in such a way that further impact to sensitive species cause by edge effects are reduced and the ratio of surface area to the perimeter of conserved habitats is maximized. In this way, the area can provide suitable foraging and nesting habitat for native species. • Once a suitable site for land acquisition is found, a biological assessment of the resources present on site shall be performed, and a report shall be generated that includes information on the baseline environmental data on the property. • The County Department of Public Works will be responsible for keeping track of the land, resources, and monitoring efforts and provide this information to the Planning and Building Department (Environmental Division). **Habitat Enhancement** • Oak trees shall be replaced using locally collected acorns or other propagules, preferably collected from within the area of the proposed construction. • As with habitat creation, the sensitive plant species	

	including sand almond, sand mesa manzanita, and California spineflower shall be propagated from local seed stock, preferably from seed or propagules salvaged from within the proposed alignment. • These areas would be monitored by a qualified individual for no less than 3 years and set aside in perpetuity after enhancement. See Mitigation Measures F-1 through F-3, F-5 through F-8, F-16, and F-18 above	
Impacts to Sensitive Habitats There is a potential for construction to impact Nipomo Creek and associated riparian vegetation.	**F-17, Conditions of Approval to Address Impacts to Jurisdictional Waters**. To reduce impacts to riparian habitats and associated drainages subject to Corps and/or CDFG jurisdiction, the following are required: • A U.S. Army Corps of Engineers (Corps) authorization pursuant to Section 404 of the Clean Water Act is required for any discharge of dredge or fill material into jurisdictional areas of Nipomo Creek. • A Section 1602 Streambed Alteration Agreement with the California Department of Fish and Game (CDFG) will be required in the event of any alteration of Nipomo Creek or the associated riparian vegetation. • To obtain the Corps permit and CDFG streambed alteration agreement, a Habitat Mitigation and Monitoring plan shall be prepared by a qualified biologist for any impacts to areas subject to state or federal jurisdiction. There are no predetermined ratios for habitat replacement. The nature and extent of habitat replacement is determined on a regular case by case basis. Generally, habitat replacement ratios	Impacts to Nipomo Creek and associated riparian areas will be reduced to a less than significant level by implementing Mitigation Measures F-1 through F-3, F-5 through F-8, F-16 through F-19, F-21, F-24, and F-25 **(Class II Impact)**

	exceed 1 to 1 in order to compensate for the gradual nature of revegetation and off-site habitat replacement. As the vegetation within the Nipomo Creek crossing is degraded, this plan may include additional restoration either upstream or downstream of Nipomo Creek. If this type of restoration is not possible within the adjacent reaches of Nipomo Creek, the County shall contribute to a restoration program of the Nipomo Watershed at the replacement ratio established by the permit. Restoration within the watershed will result in the replacement of jurisdictional habitat lost by the proposed project. The mitigation plan must be submitted to the agencies for their approval, along with the permit applications. **F-19, Construction Equipment Staging.** No fueling, lubrication, storage, or maintenance of construction equipment within 46 meters (150 feet) of CDFG or Corps jurisdictional areas shall be permitted, which includes riparian and sensitive habitats. Spoil sites shall not be located within CDFG and Corps jurisdictional areas, including riparian and sensitive habitats, or in areas where it could be washed into Nipomo Creek. **F-21, New Bridge.** Prior to project design plan approval, the County of San Luis Obispo Public Works Department shall ensure that the design of the new bridge over Nipomo Creek shall include solid concrete railing, which decreases noise from traffic. In addition, the proposed Nipomo Creek crossing shall have an earthen bottom and the vegetation within the channel will be replanted with native species after construction is completed.	

	F-24, Pollution Prevention. The County and construction contractor shall ensure that pollution prevention practices shall be employed to prevent contamination of native habitats by construction-related materials. All project-related trash shall be collected and properly disposed of at the end of each work day. This measure shall be included in the construction plan specifications. **F-25, Best Management Practices.** The County and construction contractor shall ensure that Best Management Practices (BMPs) are employed to minimize erosion from the construction of project facilities and deposition of soil or sediment in off-site areas, especially in the vicinity of the riparian/wetlands areas associated with Nipomo Creek, east of the US 101. This measure shall be included in the construction plan specifications. Specific water quality BMPs are specified in Section V.L.5 of this EIR. See Mitigation Measures F-1 through F-5, F-7, F-8, F-14, F-19, F-24, and F-25	
The project will impact various maritime chaparral habitats within the project boundary, a habitat type that is in decline.	See Mitigation Measure F-16 above	Impacts to maritime chaparral habitats will be reduced to a less than significant level by implementing Mitigation Measure F-16 **(Class II Impact)**.
The proposed road alignment would impact a small area of freshwater marsh and willow riparian habitats.	See Mitigation Measure F-16	Impacts to freshwater marsh and willow riparian habitats will be reduced to a less than significant level by implementing Mitigation Measure F-16 **(Class II Impact)**.

There is a potential for invasive plant species to be imported to the adjacent native habitats and the Nipomo Creek drainage via contaminated construction equipment or imported materials such as soils.	See Mitigation Measure F-8 above	Mitigation Measures F-8 will reduce impacts from invasive plant species to a less than significant level **(Class II Impact)**.
The construction of the proposed project will result in the direct removal of oak woodland habitat as well as individual oak trees. There are approximately 938 coast live oak trees within the current proposed project boundary, of which 810 are greater than 6 inches dbh.	See Mitigation Measure F-16 above **F-15, Oak Tree Replacement.** Mitigation for removal or damage of oak trees must be accomplished by replacing trees removed or damaged at a ratio in accordance with the County of San Luis Obispo standards. The County of San Luis Obispo recommends a 4:1 replacement of oak trees greater than 6 inches diameter at breast height (dbh) removed or damaged by development activities. Impacted or damaged trees shall be replaced at a 2:1 ratio. When work under drip-lines cannot be avoided, all limb trimming and root cutting shall follow good arborists' practices. An oak tree replacement plan shall be prepared along with the Habitat Creation, Conservation and Enhancement Plan described below prior to project grading for review and approval of the County of San Luis Obispo, Department of Planning and Building with the intent of successfully reestablishing the removed or damaged oak trees. At a minimum, the plan shall (a) identify the number of oak trees to be removed and impacted, (b) specify the number and location of oak trees to be planted, (c) provide replanting in compatible areas near project facilities, particularly in the vicinity of the US 101, and (d) identify all areas to be permanently set aside for oak replacement. Oak trees removed or damaged by project activities must be replaced by locally collected	The proposed project would directly impact 28.8 acres of oak woodland habitat. Even with the preparation of an Oak Tree Replacement Plan and Oak Woodland Habitat Creation, Conservation and Enhancement program as prescribed in Mitigation Measures F-15 and F-16, project impacts to oak woodland and oak trees are considered significant adverse impacts until the replacement trees and restored/enhanced habitat is fully ecologically functional **(Class I Impact)**.

	acorns or other propagules, preferably collected from within the area of the proposed construction. Final numbers of oak trees and corresponding diameters shall be assessed prior to the start of construction based on final design.	
Approximately 0.19 acre of jurisdictional waters of the U.S. would be directly impacted by the proposed road extension crossing over Nipomo Creek.	See Mitigation Measure F-17	Impacts to 0.19 acres of jurisdictional waters of the U.S. will be reduced to a level that is less than significant by implementing Mitigation Measure F-17 **(Class II Impact)**.
Impacts to Wildlife Movements The proposed project could cause indirect effects on wildlife movement in the Nipomo Creek Corridor. .	See Mitigation Measure F-21 above **F-20, Creek Crossing Lighting.** The use of lights on the new proposed creek crossing shall be minimized to reduce impacts on wildlife movement under the crossing. No artificial lighting shall be installed or used in or around the bridge/culvert unless otherwise required to meet Caltrans approval. If lights are required for the crossing, a biologist shall be retained to assist in the creation of a lighting plan design. Low-light features shall be used where feasible, including: (1) low-intensity street lamps, (2) lower elevation street poles, or (3) shielding by internal silvering of globes or external opaque reflectors. The responsible party shall ensure that this measure is shall be included on the construction specifications.	Implementing Mitigation Measures F-20 and F-21 will reduce impacts on wildlife movement in the Nipomo Creek corridor to a less than significant level **(Class II Impact)**.
Indirect impacts associated with construction and operation of the proposed project such as dust, accidental fuel spills, activities outside designated	See Mitigation Measures C-1 through C-3 and F-24 and F-25 above	Indirect impacts to biological resources will be reduced to a less than significant level with the

construction areas, litter, traffic, runoff, increased human presence and use of the area, and increased fire risk could potentially have a significant impact on biological resources.	**F-22, Dust Control Program.** The County and construction contractor shall ensure that a dust control program is in place during construction so that native trees and shrubs are not damaged due to dust covering the leaves. A maximum speed limit of 15 miles per hour will be posted on all construction routes. Watering trucks shall be used regularly with sufficient frequency to eliminate visible dust behind construction vehicles. **F-23, Speed Limits.** The construction contractor shall ensure that all construction personnel obey speed limit rules both along public roads and designated project access. Driving off designated project routes shall not be permitted. This measure shall be included in the construction plan specifications.	implementation of Mitigation Measures C-1 through C-3, and F-22 through F-25 **(Class II Impact).**
General Impacts to Biological Resources Construction of the proposed project will result in direct and indirect impacts to vegetation and wildlife habitats.	See Mitigation Measures F-1 through F-8	General impacts to biological resources will be reduced to a less than significant level after the implementation of Mitigation Measures F-1 through F-8 **(Class II Impact)**.
The proposed project will result in a direct loss of habitat as a result of vegetation removal during construction. This includes impacts to nesting birds	See Mitigation Measures F-1 through F-8	Mitigation Measures F-1 through F-8 will reduce impacts to nesting birds to a level that is less than significant **(Class II Impact).**
Cumulative Impacts Because there is an existing roadway along or immediately adjacent to most of the proposed project alignment and the native habitat and associated plant and wildlife species within the	See Mitigation Measures F-1 through F-25	By implementing Mitigation Measures F-1 through F-25, cumulative impacts to wildlife and vegetation will be less than

vicinity are currently subject to extensive disturbances already, project impacts will not cause a substantial contribution to cumulative impacts.		significant **(Class II Impact)**.
G. CULTURAL AND PALEONTOLOGICAL RESOURCES The proposed project will impact a number of cultural resources. Some or all of these sites could be damaged or destroyed by construction of the proposed project. Damage or destruction may create a significant impact upon these resources.	**G-1, Archaeological Monitoring Plan.** Prior to initiating construction, the County Department of Public Works shall prepare a monitoring plan with written procedures for archaeological resource monitoring. The County has the responsibility for ensuring that sites to be preserved in place are not impacted by construction activities, for evaluating unanticipated discoveries, and for providing recommendations on the subsequent treatment of such discoveries. This plan shall include procedures for protecting sites that are to be preserved in place and for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of newly-discovered resources as appropriate. As part of the monitoring program, the County shall involve local Native Americans. If the archaeological resources are found and determined to be significant, the County will determine appropriate actions for their exploration and data recovery. The County shall prepare excavated material to the point of identification. Following the completion of grading, the County Department of Public Works shall prepare a report detailing the results of the monitoring program to be presented to the County Department of Planning and Building. A copy of the final report should also be submitted to the Central Coast Information Center at the	Impacts to known archaeological sites can be reduced to a less than significant level with the implementation of Mitigation Measures G-1 and G-2 **(Class II Impact)**.

	University of California, Santa Barbara. The report shall follow the guidelines of the California Office of Historic Preservation (1990) *Archaeological Resource Management Reports* (ARMR). Excavated finds shall be offered for curatorial purposes to the San Luis Obispo County Archaeological Society or another qualified scientific institution. **G-2, Data Recovery Plan.** Prior to initiating construction, the County Department of Public Works shall prepare and execute a data recovery plan. The plan shall include a background section discussing the resource, present a research design that addresses important questions, and present appropriate methods for the collection of relevant data. This plan shall follow the guidelines of the California Office of Historic Preservation (1991). The data recovery plan shall be developed in consultation with the County Department of Planning and Building. Following the development of the data recovery plan, the County shall conduct the research program described in the plan. The County shall prepare excavated material to the point of identification. Following completion of the field and laboratory work, the County shall produce a report detailing the results of data recovery. A copy of the final report shall also be submitted to the Central Coast Information Center at the University of California, Santa Barbara. The report shall follow the guidelines of the California Office of Historic Preservation (1990) ARMR. Excavated finds shall be offered for curatorial purposes to the San Luis Obispo County Archaeological Society or another qualified scientific institution.	

A home built in 1952 could suffer impacts from the visual effects of the proposed project. Since the house is not a historical resource for the purposes of CEQA, impacts will be less than significant.	No mitigation measures necessary	No Impact **(Class III Impact)**
Besides impacts to known cultural resources, this project also has the potential to significantly impact cultural or paleontological resources that have not been discovered during the course of previous surveys, but may be encountered during construction.	See Mitigation Measure G-1 above **G-3, Pre-Construction Archaeological Workshop.** An archaeological workshop shall be conducted at the pre-construction meeting for construction personnel under the supervision of the County Department of Public Works. This workshop shall educate construction personnel about what types of cultural materials may be encountered during construction excavation. A procedure for notification of a qualified archaeologist about accidental discoveries and a communication network shall be developed so that if any suspected cultural materials are unearthed in areas not being monitored, they can be quickly examined and evaluated by qualified archaeologist and appropriate recommendations made. This workshop shall be repeated as needed for construction workers not attending pre-construction meetings and prior to their beginning any grading work. **G-4, Procedure for Handling Unanticipated Discoveries.** If any cultural or paleontological material is unearthed during grading or excavation associated with the project, work in that area shall be halted until such material can be examined by the County and appropriate recommendations made. **G-5, Procedure for Handling the Discovery of Human Remains.** If human remains are encountered during	By implementing Mitigation Measures G-1 and G-3 though G-5, potentially significant impacts to yet undiscovered cultural resources can be reduced to less than significant **(Class II Impact)**.

	grading or excavation associated with the project, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of the origin and disposition of the materials pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC). The NAHC will determine and notify a Most Likely Descendent (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The descendent must complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.	
Although no known paleontological resources are known to be within the project limits, a paleontological literature and record search and geoarcheological trenching in the project area indicates that the proposed project is located on Pleistocene sediments that have a high potential for containing remains of vertebrate fossils at depths below six feet. Therefore, nonrenewable paleontological resources could be impacted by project related excavation, particularly at depths below six feet.	**G-6, Paleontological Resource Impact Mitigation Program.** Prior to initiating construction, a County approved project paleontologist shall prepare a Paleontological Resource Impact Mitigation Program (PRIMP) for ensuring that paleontological resources are kept below a level of significance. The PRIMP shall include the following steps: • The project paleontologist shall prepare a map to show where grading to depths below six feet would occur within Pleistocene formations, which is of primary concern for paleontological resources; • A trained paleontological monitor shall be present during rough grading below a depth of six feet and within Pleistocene sediments to the final depth of	By implementing Mitigation Measure G-6, potential impacts to paleontological resources will be reduced to a level that is less than significant.

	excavation for the entire length of the road alignment. The monitor will be empowered to temporarily halt or redirect construction activities to ensure avoidance of adverse impacts to paleontological resources. The monitor will be equipped to rapidly remove any large fossil specimens encountered during excavation. During monitoring, samples will be collected and processed to recover microvertebrate fossils. Processing will include wet screen washing and microscopic examination of the residual materials to identify small vertebrate remains; • Upon encountering a large deposit of bone, salvage of all bone in the area will be conducted in accordance with modern paleontological techniques; • All fossils collected during the project will be prepared to a reasonable point of identification. Excess sediment or matrix will be removed from the specimens to reduce the bulk and cost of storage. Itemized catalogs of all material collected and identified will be provided to the museum repository along with the specimens; • A report documenting the results of the monitoring and salvage activities and the significance of the fossils will be prepared; • All fossils collected during this work, along with the itemized inventory of these specimens, will be deposited in a museum repository for permanent curation and storage.	
The proposed project contributes to incremental cumulative impacts on cultural resources in the	See mitigation measures G-1, G-3 through G-5 above	By implementing Mitigation Measures G-1 and G-3 though G-

project vicinity. The proposed project will facilitate other planned developments within the region. These planned projects will impact archaeological sites and other potentially significant cultural resources. Potentially significant impacts can be reduced on a project-by-project basis with appropriate mitigation measures. In the case of the proposed project, potentially significant impacts can also be reduced to a less than significant level so the project will not significantly contribute to cumulative impacts on cultural resources.		5, potentially significant cumulative impacts to cultural resources can be reduced to less than significant **(Class II Impact)**.
H. AGRICULTURAL RESOURCES The proposed project will traverse areas currently being devoted to a variety of agricultural uses including dryland and irrigated farming, nurseries and greenhouse operations. Development and operation of the proposed project will have a less than significant impact on these agricultural uses.	**H-1, Agricultural Vehicle Crossings.** The County of San Luis Obispo Department of Public Works shall ensure that, as part of project design, all project roadways which traverse any lands under cultivation shall provide an adequate number of at-grade agricultural vehicle crossings. These concrete road crossing shall be striped and marked with appropriate signage to warn motorists of the potential for agricultural vehicles on the roadway and shall be located to provide safe vehicle sight distance. **H-3, Cattle Undercrossing.** Prior to initiating construction, the County of San Luis Obispo Department of Public Works shall contact property owners utilizing the existing cattle undercrossing. If the facility is still in use at that time, the County must provide a separate cattle undercrossing to allow unimpeded access through the interchange. If this is not possible, the County shall purchase the access rights to the cattle undercrossing.	Impacts to agricultural resources, nurseries, greenhouses, and prime agricultural soils will be reduced to less than significant levels after implementing Mitigation Measures H-1 and H-3 **(Class II Impact)**.

Project road facilities will traverse through two existing Williamson Act Agricultural Preserves (parcel numbers 091-251-017 and 091-301-019). Construction on or through agricultural preserves is considered a significant impact.	**H-2, Williamson Act Notice.** Prior to completion of right-of-way acquisition, the County of San Luis Obispo shall prepare all required notices pursuant to Section 51291 of the Williamson Act for any roadways within established agricultural preserves.	Impacts to two agricultural preserves are considered to be significant, unavoidable, and adverse even with implementation of Mitigation Measure H-2 **(Class I Impact)**.
The proposed project will traverse areas containing potentially prime agricultural soils (when irrigated). These impacts are considered to be less than significant.	No mitigation measure necessary	Less than significant impact **(Class III Impact)**.
Cumulative impacts to agricultural resources resulting from the proposed project could be significant. Provision of roadways and access facilities similar to those associated with the proposed project can eliminate a potential constraint upon development (i.e. lack of access) and, in turn, can create economic pressures and increased land values. These conditions can potentially hasten the conversion of adjacent agricultural lands and agricultural preserves as well as areas containing prime agricultural soils to developed uses. The proposed project also represents a contributing step in the long-range development of the list of cumulative projects in the project area. Development of these projects could impact agricultural land uses, preserves, and soils found in the project area. If all of the projects from the cumulative projects list are developed it is likely that there will be a significant cumulative impact	There are no feasible mitigation measures to reduce cumulative impacts to agricultural resources	Cumulative impacts to agricultural resources resulting from the proposed project could be significant, unavoidable, and adverse **(Class I Impact)**.

on existing agricultural lands and operations.		
I. AESTHETICS Construction of an additional freeway interchange will represent a permanent change in the existing unobstructed, rural views of the project area from US 101. The proposed interchange is also within the US 101 Design Corridor which attempts to minimize impacts to scenic foreground and background views from US 101. Therefore, the proposed US 101 interchange represents a potentially significant impact upon views to motorists using US 101.	**I-1, Revegetation Plan.** All slopes and areas disturbed by grading for any proposed project facilities shall be planted with drought resistant vegetation immediately following construction. A Re-vegetation Plan shall be prepared for approval by the County of San Luis Obispo, Department of Planning and Building prior to project grading. This plan shall specify the type and location of re-vegetation for all slopes and areas disturbed by grading for any of the project facilities. Larger shrubs and trees shall be planted in groupings or clusters in the vicinity of US 101 in order to buffer views from the freeway and to shield external views of the proposed interchange facility while also providing adequate line-of-sight for motorists. Sufficient topsoil will be stockpiled for use in all re-vegetation areas. The re-vegetation is intended to buffer views of project facilities while also providing adequate line-of-site for motorists. The location and type of vegetation are also important in screening facilities while also maintaining scenic background views.	By implementing Mitigation Measure I-1 the visual impact of the highway interchange can be reduced or "softened" **(Class II Impact)**.
Construction of the proposed project will result in the permanent alteration of the nature and appearance of the project area and its immediate surroundings through the removal of oak woodland habitat and hundreds of individual oak trees. This loss of oak trees is considered a potentially significant visual impact given their visibility from US 101 and their visual contribution to the landscape of the area.	See Mitigation Measure I-1, F-15 and F-16 above	Impacts from alteration of the project area setting will be reduced to a less than significant level through the implementation of Mitigation Measures I-1.F-15, and F-16 **(Class II Impact)**.

The extension of Willow Road over Nipomo Creek will result in the removal of riparian vegetation. However, given the lower elevation and the resulting lack of visibility of this area combined with the relatively small area of disruption (less than one acre), the vegetation removal is not considered to be a significant aesthetic impact.	No mitigation measure necessary	Visual impacts to riparian habitats are less than significant. **(Class III Impact)**.
Operation of the proposed project has the potential of adding night lighting which may generate additional light and glare in the project area. Sources of nighttime lighting include automobile traffic and intersection lighting at the proposed interchange. The interchange configuration, proposed as an undercrossing, will significantly reduce light and glare impacts in that required lighting will be below or at the existing freeway elevation rather than elevated over the existing highway. Nevertheless, the additional lighting may cause a significant impact.	**I-2, Project Lighting.** All project lighting shall comply with requirements of the County of San Luis Obispo while also conforming to the type of lighting and extent of illumination currently employed by the California Department of Transportation. To the extent allowed, illumination levels and light standard heights shall be as low as possible while still providing for adequate safety. The number of street lights designed for project roadways shall be minimized to reduce potential light and glare impacts while providing required illumination for access and safety. Lighting plans shall be included in the project design plans to be reviewed by the County Department of Planning and Building. **I-3, Downward Shielding of Light Sources.** All street and interchange lighting shall be designed in a manner which orients light downward and is shielded to prevent upward and side illumination. Where possible, all exterior lighting should involve low pressure sodium vapor lamps or equivalent lighting technology which reduces potential excess light and glare.	Mitigation Measures I-2 , I-3, F-11 and F-20 in Biological Resources will reduce operation, long-term light and glare impacts to less than significant levels **(Class II impact)**.
Construction of the proposed project will result in short-term visual impacts by disrupting the existing surface appearance. Impacts to the views of the	No mitigation measures necessary	No impact **(Class III Impact)**

area during project construction are considered to be less than significant due to the short-term nature of construction activities and the relatively small area of disruption. The Willow Road Extension/US 101 Interchange project will create a potentially significant cumulative aesthetic impact since the interchange and road will change the visual appearance of the project area and introduce additional nighttime lighting. In addition, the project contributes to the long-range development of cumulative projects anticipated for the area. Development of these projects would further impact the visual appearance and light and glare conditions in the project area.	See Mitigation Measures I-1 through I-3, F-11, F-15 through F-17 and F-20	With implementation of the prescribed project specific mitigation measures, the project's contribution to the cumulative aesthetic visual environment would be reduced to less than significant. **(Class II Impact)**.
J. GEOLOGY AND SOILS There is one fault that runs through the project area that poses a potential threat of surface rupture. The fault is a type, however, for which the potential for surface rupture is thought to be low. A major earthquake on the fault in this area could, however, cause potentially significant impacts through warping and fracturing of the ground surface.	**J-1**, **Conformance to Applicable Standards.** Project design and grading plans prepared by the Project Engineer shall conform to applicable County and State Construction Standards for roads and bridges. These standards must be implemented in the plans prior to County approval of the final plans, specifications, and estimates (PS&E). **J-2, Project Design Assumptions.** Project design shall assume that project facilities will be exposed to ground shaking commensurate with a Maximum Credible Earthquake. These design specifications shall be incorporated in the design plan prepared by the Project Engineer prior to County approval of the PS&E. **J-3, Recommendations of the Geotechnical Engineer.** The recommendations of a design-level geotechnical	Potential impacts related to surface rupture are not significant. The proposed project design will nevertheless be required to meet all applicable County and State standards as outlined in Mitigation Measures J-1 through J-3 **(Class II Impact)**.

	investigation performed by a qualified Geotechnical Engineer shall be implemented in the design plan prepared by the Project Engineer prior to County approval of the final PS&E. These recommendations will include detailed geologic investigations related to liquefaction, lateral spreading, and collapsible/expansive soils.	
Offset along faults within the eastern and western ends of the project could produce uplift and/or tilting of the roadway. The probability of such offset is quite low, and the effects of this tilting would be minor such as cracking of pavement and structural sections. Therefore, this potential impact would be less than significant.	No mitigation measures are necessary	Impacts resulting from offset along faults are not significant **(Class III Impact)**.
Severe ground shaking will occur within the project area if an earthquake of great magnitude occurs on one of the nearby active or potentially active faults. The effects of such an event could cause potentially significant impacts such as cracking of the roadway and structural sections, slumping of slopes near the US 101 interchange, seismic settlement, and possible liquefaction and lateral spreading.	See Mitigation Measures J-1 and J-2 above	Potential impacts caused by seismic ground shaking can be reduced to less than significant levels with implementation of Mitigation Measures J-1 and J-2 **(Class II Impact)**.
Differential consolidation and seismic settlement may crack or warp roads. The chance for differential consolidation to occur is greater in the eastern portion of the project. Problems associated with differential consolidation can be addressed through routine road maintenance. Therefore, this impact is not significant.	No mitigation measures necessary	No impact **(Class III Impact)**.

Saturated or nearly saturated soils may compress and lose shear strength when shaken during an earthquake causing the soil to behave as a viscous fluid or result in large fissures occurring along unsupported slopes. Liquefaction typically occurs in places where groundwater exists within 50 feet of the surface and groundwater likely occurs at depths of 70 feet or more throughout most of the project area.	See Mitigation Measures J- 1 and J-3 above **J-4, Mitigation of Potentially Liquefiable Soils.** If areas of potentially liquefiable soils are identified during design-level geotechnical investigations, appropriate design measures shall be implemented in the design plan prepared by the Project Engineer prior to County approval of the final PS&E. These design measures will include: • Realign interchange to avoid liquefiable soil; • Elevate the roadway on a compacted fill embankment; or • Densify liquefiable soils by accepted ground improvement methods including deep dynamic compaction or installation of stone columns. Any project design modifications that expand the physical area of effect beyond the project limits of the as defined in the EIR will require subsequent environmental review and analysis by the County to conform to the requirements of CEQA.	Mitigation Measures J-1, J-3 and J-4 will reduce potential impacts from liquefaction and lateral spreading to less than significant levels **(Class II Impact)**.
Soil collapse causes structures and roadway facilities to sink or contort. Expansive soils may repeatedly expand and contract, damaging structures that rest on them. The potential impacts of expansive soils can be mitigated to a less than significant level.	**J-5**, **Mitigation of Potentially Collapsible Soils.** If any potentially collapsible soil is identified during design-level geotechnical investigations, the affected area shall be temporarily flooded with water by the Project Engineer or Project Contractor to induce collapse before construction. This requirement shall be shown on all applicable construction plans. **J-6, Mitigation of Potentially Expansive Soils.** If any potentially expansive soil is identified during design-level geotechnical investigations, appropriate measures shall be	Mitigation Measures J-5 and J-6 will reduce potential impacts from soil collapse and soil expansiveness to less than significant levels **(Class II Impact)**.

	implemented in the design plan prepared by the Project Engineer prior to County approval of the final PS&E. These measures will include: • Remove and replace any excessively expansive material identified; • Water, condition, and control compaction of fill; and • Establish positive drainage to suitable points in a controlled manner without ponding.	
Although the potential for landslides in the project area is very low, cut and fill slopes created during construction of the proposed project could create conditions conducive to landslides. Landslides could be potentially significant due to temporarily blocking roads and destabilizing road embankments.	**J-7, Mitigation of Landslides.** Landsliding potential of cut/fill slopes associated with the US 101 interchange can be reduced by implementing the following measures in the design plan prepared by the Project Engineer prior to County approval of the final PS&E: • Design the freeway structures to withstand the maximum credible earthquake; • Construct fill and/or cut slopes no steeper than 2:1 (horizontal: vertical); • Establish vegetation along slopes immediately after construction pursuant to County requirements; • If required vegetation is not fully established by the beginning of the rainy season, additional erosion control measures shall be installed along slopes prior to the season and any rain events pursuant to County requirements; and • Plant native drought-resistant vegetation which requires limited irrigation pursuant to County requirements.	Mitigation Measure J-7 will reduce potential landslide impacts to a less than significant level **(Class II Impact)**.

Dunes to the west of US 101 readily erode when their vegetative cover is disturbed, such as during construction. Sand blowing across the roads as a result of this erosion can create potentially significant impacts because visibility would be reduced to hazardous levels and would require frequent clearing of the road. This impact is potentially significant but with mitigation can be reduced to a less than significant level.	**J-8, Mitigation of Potential Erosion.** To control potential erosion, all slopes and areas disturbed by grading for any proposed project facilities shall be planted with native drought resistant vegetation by the County's designated landscape contractor immediately following each applicable phase of construction. **J-9**, **Erosion Control Maintenance.** Periodic maintenance of areas disturbed by construction of project facilities shall be conducted during and after project construction by the Project Contractor in order to control erosion gullying and wind erosion.	Mitigation Measures J-8 and J-9 will reduce impacts from potential erosion to less than significant levels **(Class II Impact)**.
No mineral extraction activities are currently operating in the immediate project area, and no commercially valuable mineral resources are known to exist in the project area. Therefore, the proposed project would not preclude the future extraction of valuable mineral resources.	No mitigation measures necessary	No impact **(Class III Impact)**.
K. DRAINAGE, EROSION AND SEDIMENTATION The proposed project will not expose people or structures to a significant risk of loss, injury, or death involving flooding, and the project poses no potentially significant impacts attributable to flooding.	No mitigation measures necessary	No Impact **(Class III Impact)**.
Construction of the project will increase the amount of impermeable paved surfaces in the area. However, the project will not significantly alter existing drainages or drainage patterns. Nevertheless, the County requires that all runoff	No mitigation measures necessary	No Impact **(Class III Impact)**.

caused by impervious bituminous asphalt must be routed into infiltration basins to ultimately be absorbed by the soil. The proposed project includes a design feature to address this potential impact. Flowing water can erode soil and carry sediments to other areas. Such impacts are particularly likely during the winter, when the frequency and amount of rainfall is much higher. Winter storms could engender erosion and sedimentation within areas disturbed by construction. Disturbed areas could also be impacted by wind erosion during dry months. Over the longer-term, project features that collect surface runoff, such as culverts, may themselves contribute to erosion. Similarly, project components that would result in the steepening of existing slopes could potentially create more erosive surfaces. The project includes many design features for the control of erosion and sedimentation. With the implementation of these features, as well as mitigation measures, the proposed project will have less than significant impacts resulting from erosion and sedimentation.	**K-1**, **Construction During the Dry Season.** Prior to approval by the County, the final PS&E for the project shall specify that construction of any project facilities within or adjacent to Nipomo Creek east of the proposed US 101 interchange will take place during the dry season. As defined by County Land Use Ordinance Section 22.05.036, this season occurs between April 15 and October 15. **K-2, Erosion Control Plan for Rainy Season Construction.** Prior to approval of any grading plan or permit by the County, the project engineer shall complete an erosion control plan for any construction proposed to occur during the rainy season. The plan shall provide methods for controlling erosion, including—but not limited to—erosion fencing, hay bales, temporary salutation basins, and erosion control blankets. This plan shall conform to Section 22.05.036 of the County Land Use Ordinance. Replacement vegetation and landscaping should be planted sufficiently in advance of October 15 to allow plant roots time to become established and effectively protect the soil. **K-3, Erosion Control Plan for Dry Season Construction.** Prior to approval of any grading plan or permit by the County, the project engineer shall complete an erosion control plan for any construction on Nipomo Mesa proposed to occur during the dry season. This plan	The proposed project includes a number of design features that address both potential impacts to drainages and potential impacts arising from erosion and sedimentation caused by construction of the project. These design features, in combination with Mitigation Measures K-1 through K-5 will reduce these impacts to a less than significant level **(Class II Impact)**.

	shall provide methods for controlling wind erosion, including—but not limited to—using a water truck to apply water to disturbed and unvegetated surfaces. This plan shall conform to Section 22.05.036 of the County Land Use Ordinance. **K-4, Monitoring of Project Area.** Following completion of each project construction phase, the County monitor shall evaluate the area following storms to determine whether additional work must be done to stabilize areas subject to surface erosion. The County monitor shall document the post-storm condition of areas susceptible to erosion. **K-5, Design of Equestrian Trails.** Prior to approving a final PS&E for construction of the equestrian trails located adjacent to the proposed road extension, the County shall require that the PS&E specify the use of compacted native soils (where appropriate), Class 3 aggregate base materials, or similar long-lasting products to minimize erosion on the trail surfaces.	
No large body of water exists in the surrounding inland region, the project area lies approximately 8 miles from the coast, and the narrow mountain valleys that foster large, fast-moving mud flows during rain storms do not exist near the project area. Therefore, the project will have no potentially significant impacts resulting from a seiche, tsunami, or mudflow.	No mitigation measures necessary	No Impact **(Class III Impact)**.
The watershed into which runoff from the project flows is the area for which cumulative project	See Mitigation Measures K-1 through K-5	With the implementation of Mitigation Measures K-1 though

impacts are determined. The proposed project accommodates other, planned development in the cumulative project area. These projects will disturb the ground surface during construction and lead to the creation of more impermeable ground surfaces. Impacts from these projects, however, can be mitigated on a project-by-project basis. The proposed project's contribution to cumulative drainage impacts will be mitigated by project specific mitigation measures prescribed herein.		K-5, the project's contribution to the cumulative drainage impacts will mitigated to a level that is less than significant **(Class II Impact)**.
L. WATER QUALITY The proposed road construction and the proposed bridge construction over Nipomo Creek have the potential to introduce pollutants into Nipomo Creek thereby causing significant detrimental impacts. Pollutants of concern during construction include sediments, trash, petroleum products, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality and aquatic habitats.	**Standard Procedures and Practices.** The County and Caltrans will implement standard procedures and BMPs consistent with the County municipal code as well as the County SWMP and the Model Urban Runoff Program for small municipalities and consistent with the Caltrans SWMP as applicable. Structural Treatment Best Management Practices (BMPs) that will be incorporated as part of the project include two infiltration basins and vegetated swales or vegetated buffer strips. The vegetated swales/buffer strips would be located along the roadway perimeter. The California Stormwater BMP Handbooks have published removal efficiencies for Treatment BMPs as high, medium, or low. These removal efficiencies for the proposed Treatment BMPs are listed in Table V.L-9 (page V.L-16). **L-1, NPDES Permit (County Compliance).** Prior to the issuance of grading permits, the County shall ensure that	Implementing construction procedures and BMPs as prescribed in standard procedures and practices and Mitigation Measures L-1 and L-2, will reduce significant adverse water quality impacts associated with project construction to less than significant levels **(Class II Impact)**.

	the project complies with the State General Construction Activity NPDES Permit. The construction contractor shall demonstrate to the County that coverage has been obtained under the State General Construction Activity NPDES Permit by providing a copy of the Notice of Intent (NOI) submitted to the State Water Resources Control Board (SWRCB) and a copy of the subsequent notification of the issuance of a Waste Discharge Identification (WDID) number or other proof of filing. In accordance with the permit, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for the project. Implementation of the SWPPP shall reduce the discharge of pollutants to the maximum extent practical using management practices, control techniques and systems, design and engineering methods, and such other provisions as are appropriate. A copy of the SWPPP shall be kept at the project site and shall be available to the County upon request. **L-2, NPDES Permit (Caltrans Compliance).** Prior to the issuance of grading permits, Caltrans shall comply with the provisions of the *National Pollutant Discharge Elimination System (NPDES) Permit Statewide Storm Water Permit and Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation* Order No. 99-06-DWQ NPDES No. CAS000003, as they relate to construction activities for the portion of the project within their jurisdiction. This shall include a *Notification of Construction* to the Central Coast Regional Water Quality Control Board at least 30 days prior to the start of construction, preparation and implementation of a Storm Water Pollution Prevention Plan, and a *Notice of Completion* to the CCRWQCB upon completion of	

	construction and stabilization of the site.	
The proposed project will increase the amount of impervious surface in the project area, which has the potential to significantly impact water quality. For example, increasing the volume of runoff during a storm more effectively transports pollutants to receiving waters and may lead to downstream erosion. Pollutants of concern include sediments, trash, petroleum products, metals, and chemicals. In addition, an increase in impervious surface will alter the character of the runoff (from agricultural runoff to road/vehicular runoff) increasing the amount of pollutants that reach surface water and groundwater.	**L-3, Best Management Practices.** Prior to construction, the County and Caltrans shall follow the procedures outlined in the *Storm Water Quality Handbooks, Project Planning and Design Guide* and other applicable County guidelines for implementing treatment best management practices (BMPs) for the project. This shall include coordination with the Central Coast Regional Water Quality Control Board (CCRWQCB) with respect to feasibility, maintenance, and monitoring of Treatment BMPs as set forth in the County's Storm Water Management Program and Caltrans *Statewide Storm Water Management Plan*.	Utilizing of Source Control or Structural BMPs and Treatment BMPs and adherence to County and Caltrans requirements as presented in Mitigation Measure L-3 will reduce the proposed project's potential adverse impacts to water quality after construction to a level that is less than significant **(Class II Impact)**.
The increase in pollutant loading resulting from the proposed project would be offset by the Construction BMPs and Treatment BMPs proposed as part of the project. Likewise, other projects in the Nipomo Mesa HSA are required to be reviewed by local, regional, and State jurisdictions and would be evaluated against requirements similar to those for the proposed project. Should similar procedures, as those that are being followed for the proposed project, be followed for future projects within the watershed area, the cumulative projects would not substantially impact surface water or groundwater quality. Therefore, the proposed project will not, either by itself or in combination with other reasonably foreseeable projects, contribute significantly to cumulative water quality impacts.	See Standard Procedures and Practices and Mitigation Measures L-1 though L-3 above.	By complying with all applicable ordinances, regional and State water quality programs, standard procedures and practices, and proposed mitigation measures, cumulative impacts on water quality will be less than significant **(Class II Impact)**.

M. HAZARDOUS MATERIALS		
Elevated levels of soil contaminants, such as lead, may be present along the shoulders of US 101 due to airborne deposition from automobiles. If elevated levels of lead are confirmed within the soils adjacent to US 101, this will not in itself pose a significant potential impact to human or environmental health. However, if these soils are disturbed during grading activities, ingestion or inhalation of airborne dust may pose a potential threat to human health.	**M-1, Soil Contamination.** To confirm whether lead contaminants are present in surface soils adjacent to US 101, soil sampling and testing shall be conducted by a County-approved soil scientist prior to any grading or construction activities. Should elevated levels of lead or petroleum contaminants be found, a Health and Safety Plan shall be prepared by a qualified individual approved by the County. Work practices and worker health and safety must conform to California Code of Regulations, Title 8, Section 1532.1 (Construction Safety Orders). The compliance program required under this section, which would include the health and safety plan, must be prepared by an industrial hygienist certified by the American Board of Industrial Hygiene. A qualified person who is capable of taking corrective action must monitor the compliance program/Health and Safety Plan.	Potential impacts from ingestion or inhalation of contaminated soils will be reduced to less than significant levels with implementation of Mitigation Measure M-1 **(Class II Impact)**.
Asphalt roadways containing petroleum compounds and oil drippings may be a source of adjacent soils contamination. Oil drippings and petroleum compounds do not generally seep through the roadway and, therefore, are not considered to cause significant impacts from a local or regional perspective.	No mitigation measures necessary	No Impact **(Class III Impact)**.
Pacific Gas & Electric (PG&E) owns and operates an underground natural gas pipeline adjacent to and west of US 101. Construction activities have the potential to impact this pipeline.	**M-2, Pacific Gas & Electric Pipeline.** The existing PG&E pipeline along the western side of US 101 will require special consideration during project grading activities associated with proposed Willow Road and interchange alignment. Optional design considerations include:	With the implementation of Mitigation Measure M-2, potential impacts to the PG&E pipeline will be reduced to a less than significant level **(Class II Impact)**.

	• Avoidance of the existing pipeline; • Stabilization of the existing pipeline through strengthening materials; • Relocation of the existing pipeline outside of the axis of grading. Project design and construction plans shall include specifications for the appropriate method to avoid or remedy any impact to the pipeline. If avoidance is not feasible, the County shall consult PG&E for appropriate means to ensure that the pipeline is stabilized and strengthened. If it is determined that the pipeline must be relocated, the County of San Luis Obispo will analyze for the potential environmental impacts (e.g. archaeological, biological, etc.) caused by relocating the line. A Relocation Analysis will be conducted prior to construction activities and the County will either redesign construction plans or provide adequate mitigation measures to reduce potential impacts to less than significant levels. The mitigation measures will meet the performance criteria established by PG&E and the State Fire Marshall for pipeline stability, security and proper function to prevent leakage or other hazardous effects.	
Two Unocal pipelines, designated as the Orcutt and Santa Maria oil pipelines, transverse the agricultural land between Thompson Avenue and US 101. If the pipelines are disturbed by grading activities or if any leaks are currently present, hydrocarbon contamination of the subsurface soils may cause significant impacts.	**M-3, Unocal Pipelines.** The two existing Unocal pipelines along the eastern alignment of US 101, east of Nipomo Creek and west of Thompson Avenue will require special consideration during project grading activities associated with proposed Willow Road and interchange alignment. Considerations include: • Avoidance of the existing pipelines;	With the implementation of Mitigation Measure M-3 and M-4, potential impacts to Unocal pipelines will be reduced to a less than significant level **(Class II Impact)**.

	• Stabilization of the existing pipelines through strengthening materials; • Relocation of the existing pipelines outside of the axis of grading. If the pipelines cannot be avoided, and stabilization of the lines is feasible, Unocal shall be consulted on appropriate means to stabilize the pipelines. If it is determined that one or both of the lines must be relocated, the County of San Luis Obispo will analyze for potential environmental impacts of relocating the line. A relocation analysis will be conducted prior to construction activities and the County will either redesign construction plans or provide adequate mitigation measures to reduce potential impacts to less than significant levels. The mitigation measures will meet the performance criteria established by Unocal and the State Fire Marshall for pipeline stability, security and proper function to prevent leakage or other hazardous effects. **M-4, Unocal Pipeline Monitoring.** Due to the potential impacts of a leaky or broken oil pipeline, the Unocal pipeline and surrounding areas shall be monitored by a County-designated monitor for the presence or absence of leaks and contaminants prior to project construction in the affected areas. If leaks or contaminants are detected, proper corrective actions shall be taken to comply with all regulatory codes. At a minimum, the contractor shall notify the County engineer and Unocal to turn off the line, as necessary; the affected soil shall be removed and monitoring shall be conducted in accordance with the County Environmental Health Department.	

There are no known areas of naturally occurring asbestos in the project vicinity. In the unforeseen event of the discovery of ultramafic rock or asbestos containing materials during project construction, implementation of the County's Asbestos Dust Mitigation Program will reduce the impact to a less than significant level.	See Standard Condition D-2 above	With the implementation of Standard Condition D-2, potential impacts from naturally occurring asbestos will be less than significant **(Class II Impact).**
Activities at C&M Nursery include temporary soil and equipment storage. No hazardous materials were identified and no potential impacts are anticipated.	No mitigation measures necessary	No Impact **(Class III Impact)**.
Pismo Flowers could potentially cause environmental concern because of the prior or current use of pesticides. However, because the nursery is 800 feet south of the project area, impacts related to exposure of hazardous substances will be less than significant.	No mitigation measures necessary	No Impact **(Class III Impact)**.
Although oil and propane tanks were identified on private property west of US 101 and south of the proposed Willow Road alignment, no hazardous materials were identified or determined within the tanks and, therefore, no potential impacts are anticipated.	No mitigation measures necessary	No Impact **(Class III Impact)**.
The proposed project would create an additional roadway and highway interchange, and hazardous materials could potentially be transported on the roadway. However, the Willow Road extension would be a two lane arterial classification, and the	No mitigation measures necessary	No Impact **(Class III Impact)**.

majority of the hazardous material transport is on regional routes including US 101. Therefore, there would be no significant impact related to the transport of hazardous materials on the proposed road extension.		
Use of the proposed roadway and interchange would not emit hazardous emissions or involve hazardous materials handling.	No mitigation measures necessary	No Impact **(Class III Impact)**.
Vehicular use of the proposed roadway extension and interchange would increase the potential fire hazard along the roadway perimeter; however, this change would not constitute significant wildland fire danger, or a significant risk of loss, injury or death involving wildland fire generation.	No mitigation measures necessary	No Impact **(Class III Impact)**.
Although there are potential significant impacts associated with the disturbance of the Pacific Gas & Electric and Unocal pipelines, implementation of the mitigation measures described below will ensure that the proposed Willow Road Extension/US 101 Interchange project will not add significantly to cumulative impacts due to hazardous materials. Potential cumulative impacts from hazardous materials from the other development projects in the study area would require mitigation on a project by project basis.	No mitigation measures necessary	No Impact **(Class III Impact)**.
N. SOCIO-ECONOMICS		
The proposed project will neither have any direct impacts on the community's population or housing nor will it directly generate any new commercial	No mitigation measures necessary	No significant direct impacts upon the population or housing inventory or upon the existing

uses or employment.		economic profile of the Nipomo area is anticipated **(Class III Impact)**.
The proposed project could indirectly lead to an increase in Nipomo's population and housing in the following ways: Provision of roadway and access facilities, which can increase land values and create economic pressures to develop in areas served by or adjacent to these roadways; Project roadways offer a logical point for the extension of public utilities (water, sewer, storm, drain, energy) to serve project areas; and Project roadways remove an impediment to growth potentially hastening the conversion of vacant or existing agricultural land to more developed uses including additional housing. The potential of the proposed project to indirectly generate additional population and housing could be a significant impact.	There are no specific mitigation measures to reduce the potentially significant indirect generation of housing and population in the project area that would be caused by the proposed project.	The indirect or growth-inducing impacts of the proposed project are considered to be potentially significant unavoidable adverse impacts that cannot be feasibly be mitigated **(Class I Impact)**.
The proposed project facilities will, through reduced traffic volumes and congestion, improved access and reduced travel times, represent a beneficial economic impact upon existing businesses in the Nipomo area.	No mitigation measures necessary	Existing businesses in the Nipomo area will benefit from implementation of the proposed project through improved access **(Class IV Impact)**.
Completion of the proposed project is not expected to result in any direct cumulative or regional impacts upon the existing population and housing inventory nor directly impact the existing economic profile of the Nipomo area. However, the project will contribute to the cumulative impacts upon Nipomo's existing population and housing will	There are no specific mitigation measures to reduce the potentially significant indirect generation of housing and population in the project area that would be caused by the proposed project.	Cumulative impacts as a result of the project's indirect growth-inducing impacts will be significant, unavoidable and adverse **(Class I Impact)**.

occur as a result of the indirect growth-inducing impacts potentially caused by new roadways and access facilities.		

Table II-2: Summary of Residual Impacts after Mitigation

Issue	Class I	Class II	Class III	Class IV
Land Use and Planning			X	
Traffic and Circulation		X		X
Noise	X	X	X	
Air Quality		X	X	X
Public Services		X	X	
Biological Resources	X	X	X	
Cultural Resources		X	X	
Agricultural Resources	X	X	X	
Aesthetics		X	X	
Geology and Soils		X	X	
Drainage, Erosion and Sedimentation		X	X	
Water Quality		X		
Hazardous Materials		X	X	
Socio-Economics	X		X	X

II.B. MITIGATION MONITORING PROGRAM

The purpose of a Mitigation Monitoring Plan is to provide a program to examine, document and record compliance with the environmental plans and specifications pertinent to the proposed project, in order to comply with Section 21081.6 of the California Environmental Quality Act (CEQA).

The following pages include summaries of the proposed mitigation measures associated with the proposed Willow Road Extension/US 101 Interchange project. Included with each mitigation measure is a short summary of the specific action needed to fulfill the mitigation measure as well as the milestone date and the agency/agencies responsible for mitigation monitoring. The Mitigation Monitoring Program is anticipated to reflect the requirements of AB 3180 (Cortese) ensuring a monitoring program for all prescribed mitigation measures. Responsibility for ensuring successful implementation of the Mitigation Monitoring Plan lies with the County of San Luis Obispo, as the project proponent and Lead Agency for the project under CEQA.

Mitigation monitoring will be carried out by the Environmental Programs Division of the County's Department of Public Works. The Environmental Programs Division provides environmental services to the Department of Public Works, including mitigation compliance and monitoring, with oversight by the County's Environmental Coordinator.

Upon Approval of the CEQA document, and issuance of all required permits, the Environmental Programs Division will assign internal responsibility for compliance with each mitigation measure to one or more members of the project team. Responsible parties include the Environmental Programs Division, the Project Manager (PM), the Resident Engineer (RE), and/or on-site monitors.

Environmental monitoring will be required throughout all phases of the proposed project. Prior to, and during construction, mitigation monitoring shall minimize potential impacts to environmental and cultural resources. Monitoring is also necessary to ensure and verify implementation of the mitigation measures prescribed in the Supplemental Environmental Impact Report. As the County of San Luis Obispo is the ultimate monitoring agency for many of the mitigation measures, the County shall designate one or more Environmental Compliance Monitor. These Monitor(s) will prepare project mitigation plans, maintain all documentation associated with non-compliance and monitoring reports, and report compliance status to the County and other agencies. In certain cases, a mitigation measure shall require the expertise of a biological or archeological monitor. These technical monitors shall evaluate mitigation measure plans and eventual compliance. In accordance with County standards compliance levels are classified as "Acceptable," "Advisory," and "Non-Compliance," (Level 1, 2, and 3 respectively). In the event of unanticipated negative environmental effects, the Environmental Compliance Monitor shall bring such actions to the attention of the County. Monitors have the authority to halt work in specific construction areas if immediate adverse environmental impacts or significant non-compliance is noted.

Compliance with mitigation measures is documented in the project file through written reports, accompanied by project photos where necessary. Post construction monitoring of revegetation and other project components is documented by yearly reports, on a schedule typically determined by one or more of the project permits. Depending on the complexity of the post construction mitigation effort, task will be carried out by county staff or technical experts under contract to the County. Post construction monitoring is typically conducted for three to five years, depending on permit requirements and success criteria.

Where necessary, construction personnel will be required to attend a crew orientation meeting. The meeting will be conducted by the RE and will be used to acquaint the construction crews with the environmental sensitivities of the project site. The orientation meeting shall place an emphasis on the need for adherence to the mitigation measures and permit conditions as well as the need for cooperation and communication among all parties concerned (i.e., RE, Environmental Programs Division, Environmental Coordinator, construction personnel) in working together to solve problems and arrive at solutions in the field.

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
A. LAND USE AND PLANNING			
See Agricultural Resources.			
B. TRAFFIC			
B-1. Willow Road Facilities Design. Design features of the Willow Road facilities should not preclude a second ramp lane from being added to the US 101 northbound on- and off-ramps. Prior to approval of final design, the County Department of Public Works shall ensure that the design could accommodate such future ramp lanes.	Consideration of future ramp design at Willow Road/Northbound US 101	Prior to approval of final design	County of San Luis Obispo Environmental
C. NOISE			
C-1, Construction Hours. The County shall restrict construction activities to the hours between 7:00 a.m. and 9:00 p.m. on Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturdays and Sundays. This condition shall be included in the construction plan specifications.	Restrict construction hours to reduce noise impacts	During construction activities	County of San Luis Obispo Environmental
C-2, Caltrans Sound Control Requirements. To minimize the construction related noise impacts for existing residences adjacent to the project site, the County shall ensure that the project follows Caltrans Standard Specifications, Section 7-10/I, "Sound Control Requirements." This condition shall be included in the construction plan specifications.	Adhere to Caltrans Standard Specifications, Section 7-10/I	During construction activities	County of San Luis Obispo Environmental
C-3, Construction Noise Restrictions. a. The County shall ensure that the contractor shall provide training for all crew members regarding all requirements to minimize construction related noise impacts. This condition shall be included in the construction plan specifications. b. The County shall require the construction of temporary barriers where construction activities will be conducted near residential receptors, and where complaints have been received. This condition shall be	Training of construction crews and erecting temporary noise barriers to reduce noise impacts during construction	Prior to construction activities	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
included in the construction plan specifications.			
C-4, Portable Equipment. The County shall ensure that portable equipment is located as far as possible from the noise sensitive locations as is feasible. This condition shall be included in the construction plan specifications.	Position portable equipment as far as possible from noise sensitive sites	During construction activities	County of San Luis Obispo Environmental
C-5, Staging Areas. The County shall ensure that the construction vehicle staging areas and equipment maintenance areas are located as far as possible from sensitive receptor locations. This condition shall be included in the construction plan specifications.	Staging and maintenance areas as far as possible from sensitive sites	During construction activities	County of San Luis Obispo Environmental
C-6, Internal Combustion Engine Mufflers. The County shall ensure that each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without the muffler. This condition shall be included in the construction plan specifications.	Require use of mufflers on internal combustion engine equipment	During construction activities	County of San Luis Obispo Environmental
C-7, Sound Barrier No. 1. The County shall build a sound wall 10 feet high and approximately 129 feet long within the proposed County right-of-way along the north side of Willow Road between Guadalupe and Pomeroy Road to protect receptor location #1 (R-1).	Construction of Sound Barrier No. 1	Prior to construction activities	County of San Luis Obispo Environmental
C-8, Sound Barrier No. 2. The County shall build a sound wall 8 feet high and approximately 318 feet long within the proposed County right-of-way along Willow Road west of Hetrick Avenue to protect receptor location #8 (R-8).	Construction of Sound Barrier No. 2	Prior to construction activities	County of San Luis Obispo Environmental
C-9, Sound Barrier No. 3. The County shall build a sound wall six feet high and approximately 259 feet long within the proposed County right-of-way along Cherokee Place east of Hetrick Avenue to protect receptor location #15 (R-15).	Construction of Sound Barrier No. 3	Prior to construction activities	County of San Luis Obispo Environmental
D. AIR QUALITY			
D-1, APCD Asphalt Paving Regulations. The construction contractor shall adhere to the	Adhere to rules and regulations	During construction	County of San Luis Obispo

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
requirements of APCD rules and regulations on cutback and emulsified asphalt paving materials. Prior to application, the County shall contact APCD for verification.	regarding asphalt and paving materials.	activities	Environmental
D-2, Pre-Construction Asbestos Detection Program. Prior to the start of any construction activities, the County shall conduct borings in the project area to test for the occurrence of ultramafic or asbestos containing materials. In the event that ultramafic or asbestos containing materials are discovered, the County shall comply with all requirements outlined in the Asbestos ATCM for Construction, Grading, Quarrying and Surface Mining Operations. These requirements may include, but are not limited to preparation of: 1) an Asbestos Dust Mitigation Plan that shall be approved by the APCD before construction begins, and 2) an Asbestos Health and Safety Program in accordance with the California Air Resources Board regulations. This program shall be prepared and reviewed as part of the final plan check. This condition shall be included in the construction plan specifications.	Test for the occurrence of ultramafic or asbestos containing materials	Prior to construction activities	County of San Luis Obispo Environmental
D-3, Procedure for Handling Unanticipated Discoveries of Asbestos. In the event of the discovery of ultramafic or asbestos containing materials during construction, construction operations in the affected area should cease immediately and the County shall comply with all requirements outlined in the Asbestos ATCM for Construction, Grading, Quarrying and Surface Mining Operations. These requirements may include, but are not limited to preparation of: 1) an Asbestos Dust Mitigation Plan that shall be approved by the APCD before construction gets back underway, and 2) an Asbestos Health and Safety Program in accordance with the California Air Resources Board regulations. This program shall be prepared and reviewed as part of the final plan check. This condition shall be included in the construction plan specifications.	Adhere to all requirements in Asbestos ATCM regarding ultramafic or asbestos containing materials	During construction activities	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
D-4, ARB Certified Equipment. Maximize to the extent feasible the use of diesel construction equipment meeting the ARB's 1996 or newer certification standard for off-road heavy-duty diesel engines during any construction activities. This condition shall be included in the construction plan specifications.	Maximize the use of diesel equipment meeting ARB 1996 standard, or newer certification	During construction activities	County of San Luis Obispo Environmental
D-5, Installation of Emission Reduction Devices. The contractors shall install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF), or other District-approved emission-reduction retrofit devices prior to construction activities. The ARB has recently verified DOC and CDPF systems for HD diesel vehicles. DOCs have control efficiencies on the order of 25 percent, while CDPFs can achieve diesel PM reductions of 85 percent or better. In general, DOCs are effective at reducing the fine particle component, while CDPFs are effective at reducing both the fine particle and larger black soot components. Manufacturer data indicates that both types of devices can reduce about 90 percent of CO emissions and 50 to 70 percent of ROG emissions, some being a portion of the diesel PM component. Some devices/systems are being developed that have the added benefit of being able to reduce NOx emissions. Determination of the appropriate CBACT control device(s) for the project must be performed in consultation with APCD staff. This condition shall be included in the construction plan specifications.	Installation of emission reduction devices	During construction activities	County of San Luis Obispo Environmental
D-6, Construction Activity Management Plan. The contractor shall develop a comprehensive construction activity management plan designed to minimize the amount of large construction equipment operating during any given time period prior to construction activities. This condition shall be included in the construction plan specifications.	Develop construction activity management plan	Prior to and during construction activities	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
D-7, Construction Truck Trips. The contractor shall schedule construction truck trips during non-peak hours to reduce peak hour emissions prior to and during any construction activities. This condition shall be included in the construction plan specifications.	Schedule truck trips to reduce peak emissions	During construction activities	County of San Luis Obispo Environmental
D-8, Construction Work-Day. The County shall limit the length of the construction work-day period, if necessary. This condition shall be included in the construction plan specifications.	Limit the length of the construction work-day	During construction activities	County of San Luis Obispo Environmental
D-9, Construction Phasing. The County shall phase construction activities, if appropriate so that fugitive dust and other emissions being generated do not exceed daily thresholds. Construction phasing shall be planned and reviewed as part of the final design.	Phase construction activities	Prior to and during construction activities	County of San Luis Obispo Environmental
D-10, PM_{10} and Dust Emissions Reduction. Proper implementation of the following measures during construction activities will achieve a significant reduction in PM_{10} emissions. All PM_{10} mitigation measures required shall be included on grading and building plans. In addition, the contractor must designate a monitor for the dust control program and order increased watering, as necessary, to prevent transport of dust off site. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to land use clearance for map recordation and land use clearance for finish grading of the structure. a. Reduce the amount of the disturbed area where possible. b. Use water trucks or sprinkler systems to prevent airborne dust from leaving the site. Increase watering frequency whenever wind speed exceeds 15 mph. Reclaimed (nonpotable) water should be used	Reduction in PM_{10} including specific measures and steps to accomplish reduction of emissions. Adhere to APCD CEQA Air Quality Handbook and CBACT	 Prior to and during construction activities	County of San Luis Obispo Environmental County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
whenever possible. c. Spray all dirt stock-pile areas daily as needed. d. Implement permanent dust control measures identified in the approved project revegetation and landscape plans as soon as possible following completion of any soil-disturbing activities. e. Sow exposed ground areas that are planned to be reworked at dates more than one month after initial grading with a fast-germinating native grass seed, and water until vegetation is established. f. Stabilize all disturbed soil areas not subject to revegetation using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD. g. Complete all roadways, driveways, sidewalks, etc., to be paved as soon as possible. In addition, lay building pads as soon as possible after grading unless seeding or soil binders are used. h. Construction vehicles shall not exceed a speed of 15 mph on any unpaved surface at the construction site. SLOAPCD CEQA Air Quality Handbook 2003 i. Cover trucks hauling dirt, sand, soil, or other loose materials or maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114. j. Install wheel washers where vehicles enter and exit unpaved roads, or wash off trucks and			

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
equipment leaving the site. k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Use water sweepers with reclaimed water where feasible. The construction contractor shall adhere to the requirements of APCD CEQA Air Quality Handbook to reduce fugitive dust emissions. The Best Available Control Technologies for construction equipment (CBACT) shall be adhered to during the project construction.			
D-11, Well -Tuned, Efficient Equipment. Prior approval of any grading permits, the construction contractor shall select the construction equipment used on site based on low emission factors and high energy efficiency. The contractor shall also ensure that all construction equipment is maintained in proper tune according to manufacturer's specification prior to and during any construction activities. The County shall ensure that construction grading plans include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer's specifications.	Use well tuned and efficient construction equipment	During construction activities	County of San Luis Obispo Environmental
D-12, Alternative-Fuel-Powered Equipment. The construction contractor shall utilize electric or alternative-fuel powered equipment in lieu of gasoline and diesel powered engines where feasible during construction activities. This condition shall be included in the construction plan specifications.	Use electric or alternative-fuel powered equipment	During construction activities	County of San Luis Obispo Environmental
D-13, ARB-Certified Fuel. The contractor shall ensure that all off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, are powered with ARB-certified motor vehicle diesel fuel (non-taxed version suitable for off-road use) during any construction activities. This condition shall be included in the	All diesel powered equipment uses ARB-certified fuel	During construction activities	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
construction plan specifications.			
D-14, Equipment Shut Off. Prior to approval of grading permits, the construction contractor shall ensure that construction grading plans include a statement that work crews will shut off equipment when not in use. This condition shall be included in the construction plan specifications.	Shut off equipment when not in use	Prior to Plan approval and during construction activities	County of San Luis Obispo Environmental
D-15, Construction Timing. During construction activities, the construction contractor shall time the construction activities so as not to interfere with peak hour traffic and to minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flag-person shall be retained to maintain safety adjacent to existing roadways. This condition shall be included in the construction plan specifications.	Construction activity shall be timed as to not occur during peak hours	During construction activities	County of San Luis Obispo Environmental
D-16, Ridesharing. The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew during construction activities. This condition shall be included in the construction plan specifications.	Support ridesharing	During construction activities	County of San Luis Obispo Environmental
The following standard conditions for construction equipment are recommended but are not mandatory. • Electrify equipment where feasible. • Substitute gasoline-powered for diesel-powered equipment, where feasible. • Use equipment that has Caterpillar pre-chamber diesel engines. Implement activity management techniques as described in Section 6.4, pages B-2 and B-3 in Appendix D (Air Quality Assessment).			
E. PUBLIC SERVICES			
E-1, Emergency Access. The San Luis Obispo County Sheriff's Department shall review final project design plans of all project facilities and shall advise the County Public Works Department as to adequate emergency access and surveillance needs for Sheriff patrol cars. The County Public Works	County of San Luis Obispo Sheriff's Department shall review and advise on final project design	Prior to approval of final project design plans	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
Department shall submit the final design plans to the Sheriff's Department prior to approval of final project design plans.			
E-2, Fuel Reduction. Prior to the approval of final project design plans of all project facilities, a Fuel Reduction Plan shall be submitted to the San Luis Obispo County Fire Department by the County Public Works Department for review and approval. This plan will provide for adequate brush clearance and vegetation removal pursuant to Fire Department and California Department of Forestry standards while preserving as much of the natural habitat as possible. This plan shall also provide a long-term maintenance program for these cleared areas.	A fuel reduction plan shall be sent to the San Luis Obispo County Fire Department for review and approval	Prior to approval of final project design plans	County of San Luis Obispo Environmental
E-3, Existing Service Mains. The County Department of Public Works shall submit the final project design plans to the Southern California Gas Company, Pacific Gas and Electric Company, the Nipomo Community Services District, Pacific Bell, State of California, Department of Water Resources and the local cable television provider for review no less than 90 days prior to construction in order to identify the location of existing service mains, provide for and necessary relocation of facilities and prevent any unexpected service interruptions.	Final project design plan shall be submitted to local utilities	On or before 90 days, prior to construction activities	County of San Luis Obispo Environmental
E-4, Construction Notification. The County Department of Public Works shall ensure that all project plans and specifications include the following note: "Please telephone Underground Service Alert (USA) toll free at 1-800-642-2444 forty-eight hours prior to the start of construction. For best response, provide as much notice as possible, up to ten working days". This notification will allow adequate time to locate and mark existing utility facilities.	Project plans include notification instructions for utilities	Prior to approval of final project design plans	County of San Luis Obispo Environmental
E-5, Stockpiling of Cut Soils. Prior to stockpiling of soil from project generated activities, the County Department of Public Works shall ensure that a designated soil stockpile location will be reviewed for	Designate a stockpile location that avoids sensitive resources	Prior to construction activities	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
sensitive resources prior to placement of any soils.			
F. BIOLOGICAL RESOURCES			
F-1, Construction Fencing. All construction-related activities shall be confined to the proposed boundaries by installing construction fencing along the boundary prior to any ground disturbance to prevent any construction activities from encroaching into adjacent areas. All construction staging will occur within the proposed roadway or in existing developed areas as these areas are less likely to contain habitat suitable for sensitive species. Project construction plans shall include this measure in the specifications. All fencing shall remain in good working order for the duration of all construction-related activities. All-weather signs stating "Sensitive Area – Stay Out" shall be posted every 50 feet.	Fencing shall be installed along construction boundaries	Prior to and during construction activities	County of San Luis Obispo Environmental
F-2, Project Biologist. Prior to initiating construction, the California Department of Transportation (Caltrans) and the County shall designate a qualified project biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities in association with project construction in accordance with the adopted mitigation measures and applicable law.	A project biologist shall be designated to oversee monitoring and compliance	Prior to construction activities	County of San Luis Obispo Environmental; Caltrans
F-3, Biological Monitor. Prior to initiating construction, the County shall designate a qualified biologist to monitor all construction activities within and adjacent to native habitats to ensure that construction does not encroach into these areas.	Designate a biological monitor	Prior to construction activities	County of San Luis Obispo Environmental
F-4, Vegetation Removal Restriction/Nesting Birds. During construction, vegetation removal or construction activities shall not occur during the primary nesting season for local birds (April 1–August 31) where oak woodlands, wetlands, and maritime chaparral occur on, or adjacent to, the proposed project. If vegetation removal or construction activities must occur	Remove vegetation outside of the breeding/nesting period (April 1-August 1)	During construction activities	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
in these areas during this period, then preconstruction surveys shall be conducted in the appropriate habitats within and adjacent to the project boundary to identify nesting birds within or adjacent to the proposed project. If active nests are observed within or adjacent to the project boundary then a buffer is required until either the young have fledged or the nest becomes inactive. The preconstruction survey limits and buffer shall be designated by the project biologist prior to construction in the affected nesting areas. Limits and buffers shall be clearly marked in the field and shown on applicable construction plans.			
F-5, Monitoring Reports. During construction, the project biologist shall provide quarterly monitoring reports documenting compliance with the avoidance and minimization measures, and shall submit the mitigation report to Caltrans, the County, and the appropriate resource agencies. All recommended remedial work shall be completed within 30 days of identification unless the qualified biologist determines another time is more biologically appropriate.	Submit quarterly biological monitoring reports	During construction activities	County of San Luis Obispo Environmental; Caltrans
F-6, Avoidance of Work During the Rainy Season. Construction activities in the Nipomo Creek area shall occur outside the rainy season to minimize sedimentation within the drainage. Project construction plans shall include this measure in the specifications.	Construction activities shall occur outside the rainy season	During construction activities	County of San Luis Obispo Environmental
F-7, Sensitive Habitat Buffers. Permanent fences or other approved methods (such as planting suitable native trees and shrubs in the buffer area between the side of the road and native habitats) shall be used to discourage off-road disturbance from pedestrians and vehicles in sensitive habitat areas. Project construction plans shall include these measures in the specifications.	Buffers shall be placed to protect sensitive habitat	Prior to and during construction activities	County of San Luis Obispo Environmental
F-8, Non-Native Vegetation Removal. The construction contractor and project biologist shall ensure that no nonnative plant material shall be brought onto the construction site.	Non-native or exotic vegetation shall not be brought on the	Prior to and during construction activities	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
Due to the vegetative reproduction characteristics of the species in Table C of the Biological Resources Analysis (Appendix E) any occurrence of these species shall be removed from the site prior to vegetation-clearing activities at the direction of the project biologist. In addition, the potential for contribution of funds to programs, such as the removal of invasive species from riparian habitats like Nipomo Creek, should be considered in the mitigation and monitoring plan. The following measures shall be used as applicable to minimize impacts from non-native vegetation: • Prior to exotic plant removal, the County shall retain a qualified biologist to conduct focused protocol surveys to determine the presence or absence of sensitive species within the area slated for exotic vegetation removal. • If sensitive species are observed within the areas slated for exotic vegetation removal, then consultation with the USFWS shall be required prior to implementing any work activities. • Exotic weed removal shall be completed during the fall and winter months. All material removed shall be bagged and disposed of at a landfill. • All exotic weed removal activities shall be monitored by a qualified biologist. • The County shall ensure that the habitat enhancement site is kept free of exotic reintroduction for a period of five years following the completion of the exotic plant removal. • All seed mixes used for erosion control purposes shall be native or considered non-aggressive by a qualified biologist and shown on all applicable plans.	construction site and existing populations shall be documented and eventually removed		

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
F-9, Preconstruction Surveys. The project biologist shall perform preconstruction surveys in appropriate habitats, within and adjacent to the project boundary, for sensitive species, such as the California horned lizard. If sensitive species are found within the preconstruction survey area, a biological monitor (qualified to handle species, when required), designated by the County, should be present during vegetation clearing and grading activities to capture and relocate any sensitive wildlife species.	Preconstruction surveys for sensitive species	Prior to construction activities	County of San Luis Obispo Environmental
F-10, Bat Biologist. As the project area has the potential to provide suitable bat habitat, during the spring and summer (May–August) and prior to vegetation removal or alteration of existing structures, the County shall designate a qualified bat biologist to survey all potential roosting habitat proposed for removal by the proposed construction. If a roost is found, the bats shall be discouraged from returning to their roosting area and the resource removed immediately so that the bats cannot return and would be forced to find alternative roost sites. Since each roost situation is different, the qualified bat biologist shall determine the manner of exclusion. Tree removal shall be completed between September and November or March to April to avoid hibernating bats (December–February) and maternity season (May–August) if feasible. If tree removal must occur during hibernating or maternity season, then the designated qualified bat biologist shall conduct surveys prior to tree removal to determine if hibernating or maternity bats are present within or adjacent to the project limits. The limits of the buffer will be determined by the bat biologist. If they are present, then the bat biologist shall designate a buffer around the location where tree removal cannot occur until the bats have finished hibernating or the young have left the roost. If hibernating or maternity bats are not	A bat biologist shall survey during spring and summer	Prior to construction activities	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
present, then tree removal shall be initiated within 30 days of the survey.			
F-11, Temporary and Long-Term Lighting Minimization. During construction, if deemed necessary by the project biologist, lighting screens shall be used to reduce light pollution during evening construction. In addition, construction crews shall also reduce the number of times the lights are turned on and off to avoid sudden changes that may disturb wildlife and/or wildlife movement. The use of long-term lights on the proposed road shall be minimized to reduce impacts of the proposed road on sensitive wildlife species. Any lights at the interchange shall contain low light features where feasible, including (1) low-intensity street lamps, (2) lower elevation street poles, or (3) shielding by internal silvering of globes or external opaque reflectors.	The light intensity on the proposed road shall be reduced	During construction activities	County of San Luis Obispo Environmental
F-12, Pismo Clarkia Surveys. The final project boundary shall be surveyed by the project biologist as designated by the County, during the blooming period for Pismo clarkia (May–July) prior to issuing the construction contract. If surveys locate Pismo clarkia within the portion of the project with federal involvement then a Biological Assessment would need to be prepared and submitted to the USFWS and CDFG and applicable requirements of the Federal and California Endangered Species Acts would need to be met prior to any construction or site preparation activities. A preservation plan shall be prepared that, at a minimum, would result in no net loss of the plant. If the Pismo clarkia is observed in the remaining project boundaries, the appropriate permit must be obtained from the CDFG.	The final project boundaries shall be surveyed for Pismo clarkia and reports shall be submitted to resource agencies	Prior to construction activities	County of San Luis Obispo Environmental
F-13, California Red-Legged Frog. Construction activities in the Nipomo Creek area shall occur outside the rainy season to ensure that the proposed project will not impact the California red-legged frog. If construction must occur during the rainy	If construction occurs during the rainy season, onsite surveys for red-legged frogs shall be	Prior to construction activities	County of San Luis Obispo Environmental

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season, then focused protocol surveys shall be conducted within and adjacent to the project area to determine whether this species is present. If red-legged frogs are found within the project limits, additional measures shall be developed in coordination with the USFWS to avoid impacts to this species during construction. These measures shall include the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and Best Management Practices (BMPs).	conducted. If surveys find red-legged frogs in the project limits, additional measures will be required to avoid impacting the species.		
F-14, Trash Disposal. The contractor shall ensure that trash and debris deposits adjacent to native habitats shall be disposed of daily during construction to reduce impacts to sensitive habitats, such as maritime chaparral and oak woodland. Project construction plans shall include this measure in the specifications.	Trash and debris shall be removed on a daily basis	During construction activities	County of San Luis Obispo Environmental
F-15, Oak Tree Replacement. Mitigation for removal or damage of oak trees must be accomplished by replacing trees removed or damaged at a ratio in accordance with the County of San Luis Obispo standards. The County of San Luis Obispo recommends a 4:1 replacement of oak trees greater than 6 inches diameter at breast height (dbh) removed by development activities. Impacted or damaged trees shall be replaced at a 2:1 ratio. When work under drip-lines cannot be avoided, all limb trimming and root cutting shall follow good arborists' practices. An oak tree replacement plan shall be prepared along with the Habitat Creation, Conservation and Enhancement Plan described below prior to project grading for review and approval of the County of San Luis Obispo, Department of Planning and Building with the intent of successfully reestablishing the removed or damaged oak trees. At a minimum, the plan shall (a) identify the number of oak trees to be removed and impacted, (b) specify the number and location of oak trees to be planted, (c) provide replanting in compatible	Removed or damaged oak trees shall be replaced Conduct final count of oak trees and their diameters	Prior to, during, and subsequent to construction activities Prior to Construction	County of San Luis Obispo Environmental County of San Luis Obispo Environmental

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areas near project facilities, and (d) identify all areas to be permanently set aside for oak replacement. Oak trees removed or damaged by project activities must be replaced by locally collected acorns or other propagules, preferably collected from within the area of the proposed construction. Final numbers of oak trees and corresponding diameters shall be assessed prior to the start of construction based on final design.			
F-16, Habitat Creation, Conservation, and Enhancement Plan. A Habitat Creation, Conservation and Enhancement Plan shall be prepared to mitigate maritime chaparral and oak woodland habitats, as well as any riparian habitats associated with Nipomo Creek, impacted or removed during construction in accordance with agency and County requirements. This Habitat Creation, Conservation and Enhancement Plan shall be prepared and at least initially implemented prior to initiation of construction. The plan shall discuss not only the creation, conservation, or enhancement of habitat, but the re-creation, conservation, or enhancement of the original ecological function of habitats impacted by the project. To accomplish this, the plan shall include identification of areas where native habitats are to be restored, conserved, or enhanced or other means of ensuring no net loss of sensitive native habitats. In addition, this plan shall identify the potential occurrence of the sensitive plant species such as sand almond, sand mesa manzanita, and California spineflower to provide the opportunity to include the mitigation for project-related impacts to these sensitive botanical resources. Three options have been identified to mitigate for impacts to oak woodland and maritime chaparral. These options include habitat creation, habitat conservation and habitat enhancement all of which may be used individually or in combination to fulfill the	A Habitat Restoration and Enhancement Plan shall be prepared identifying sensitive species and restoration measures	Prior to, construction activities	County of San Luis Obispo Environmental

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mitigation requirements for the impacts to both the sensitive habitat types and individual oak trees associated with this project. The following mitigation ratios shall be applied for the various options: • Habitat creation shall be implemented at a 1:1 ratio. This option provides an opportunity to replace impacted chaparral and fulfill the County tree replacement standards by planting oak trees for habitat creation. • Sensitive habitat conservation shall be implemented at a 1:1 ratio. In addition, enhancement of the area set aside for conservation with new plantings provides an opportunity to fulfill the County tree replacement standard, as along as other existing sensitive habitats are not displaced from planted trees at maturity. • Habitat enhancement shall be implemented at a 2:1 ratio as this option includes sensitive habitats that are already been owned by the County and preserved that are not part of any other mitigation program. This option may provide an opportunity to fulfill the County tree replacement standards by planting oak trees where existing habitat is considered degraded or non-native. Additional details, as described below, shall be incorporated into the plan where applicable to assist in the success of each of the mitigation options. **Habitat Creation** • Oak trees should be replaced using locally collected acorns or other propagules, preferably collected from within the area of the proposed construction. • Sensitive plant species, including sand almond, sand mesa manzanita, and			

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California spineflower shall be propagated from local seed stock, preferably from seed or propagules salvaged from within the proposed alignment. • Sufficient topsoil shall be stockpiled for use in the revegetation areas. • Grazing or other vegetation-disturbing activities shall not be permitted within areas proposed as mitigation. • These areas would be set aside in perpetuity after creation. • Monitoring by a qualified individual for no less than three years. **Habitat Conservation** • A conservation easement shall be selected to preserve a larger area of high-quality sensitive habitat that contains the same sensitive species, specifically the sand almond, sand mesa manzanita, and California spineflower, at similar population levels as will be impacted by the proposed project. • The development rights of the property shall be relinquished to another entity that has its primary purpose the preservation, protection, or enhancement of land in its natural condition or use; the CDFG; or to another State or local government entity if otherwise authorized to acquire and hold title to real property. • The easement should be created in such a way that further impact to sensitive species cause by edge effects are reduced and the ratio of surface area to the perimeter of conserved habitats is maximized. In this way, the area can provide suitable foraging and nesting habitat for native species. • Once a suitable site for land acquisition is found, a biological assessment of the resources present on site shall be performed,			

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and a report shall be generated that includes information on the baseline environmental data on the property. • The County Department of Public Works will be responsible for keeping track of the land, resources, and monitoring efforts and provide this information to the Planning and Building Department (Environmental Division). **Habitat Enhancement** • Oak trees shall be replaced using locally collected acorns or other propagules, preferably collected from within the area of the proposed construction. • As with habitat creation, the sensitive plant species including sand almond, sand mesa manzanita, and California spineflower shall be propagated from local seed stock, preferably from seed or propagules salvaged from within the proposed alignment. • These areas would be monitored by a qualified individual for no less than 3 years and set aside in perpetuity after enhancement.			
F-17, Conditions of Approval to Address Impacts to Jurisdictional Waters. To reduce impacts to riparian habitats and associated drainages subject to Corps and/or CDFG jurisdiction, the following are required: • A U.S. Army Corps of Engineers (Corps) authorization pursuant to Section 404 of the Clean Water Act is required for any discharge of dredge or fill material into jurisdictional areas of Nipomo Creek. • A Section 1602 Streambed Alteration Agreement with the California Department of Fish and Game (CDFG) will be required in the event of any alteration of Nipomo Creek or the associated riparian	Appropriate permits and approvals shall be obtained to address impacts to jurisdictional waters and riparian habitats	Prior to construction activities	County of San Luis Obispo Environmental

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vegetation. • To obtain the Corps permit and CDFG streambed alteration agreement, a Habitat Mitigation and Monitoring plan shall be prepared by a qualified biologist for any impacts to areas subject to state or federal jurisdiction. There are no predetermined ratios for habitat replacement. The nature and extent of habitat replacement is determined on a regular case by case basis. Generally, habitat replacement ratios exceed 1 to 1 in order to compensate for the gradual nature of revegetation and off-site habitat replacement. As the vegetation within the Nipomo Creek crossing is degraded, this plan may include additional restoration either upstream or downstream of Nipomo Creek. If this type of restoration is not possible within the adjacent reaches of Nipomo Creek, the County shall contribute to a restoration program of the Nipomo Watershed at the replacement ratio established by the permit. Restoration within the watershed will result in the replacement of jurisdictional habitat lost by the proposed project. The mitigation plan must be submitted to the agencies for their approval, along with the permit applications.			
F-18, SWPPP and BMPs. Construction activities within or adjacent to drainages and Nipomo Creek (including roadside ditches that discharge to Nipomo Creek) should occur outside the rainy season (October–May) to ensure that construction activities do not cause sedimentation of the creek. If construction must occur during the rainy season, then the SWPPP shall be prepared and construction site BMPs shall be installed before any construction begins to include measures to keep sediment out of Nipomo creek during storm events (for example, excavation spoils being stored and trapped outside the creek, and siltation basins installed	If construction occurs during rainy season, a SWPPP shall be prepared and BMPs shall be installed	Prior to construction activities during rainy season	County of San Luis Obispo Environmental

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down-gradient). In addition, the SWPPP and BMPs will identify measures to restrict dust.			
F-19, Construction Equipment Staging. No fueling, lubrication, storage, or maintenance of construction equipment within 46 meters (150 feet) of CDFG or Corps jurisdictional areas shall be permitted, which includes riparian and sensitive habitats. Spoil sites shall not be located within CDFG and Corps jurisdictional areas, including riparian and sensitive habitats, or in areas where it could be washed into Nipomo Creek.	Construction staging shall not occur within 46 meters of CDFG and Corps jurisdictional areas	During construction activities	County of San Luis Obispo Environmental
F-20, Creek Crossing Lighting. The use of lights on the proposed creek crossing shall be minimized to reduce impacts on wildlife movement under the crossing. No artificial lighting shall be installed or used in or around the bridge/culvert unless otherwise required to meet Caltrans approval. If lights are required for the crossing, a biologist shall be retained to assist in the creation of a lighting plan design. Low-light features shall be used where feasible, including: (1) low-intensity street lamps, (2) lower elevation street poles, or (3) shielding by internal silvering of globes or external opaque reflectors. This measure shall be included on the construction specifications.	Lighting on Willow Road over Nipomo Creek shall be minimized	Prior to final design approval and construction activities	County of San Luis Obispo Environmental
F-21, New Bridge. Prior to project design plan approval, the County of San Luis Obispo Public Works Department shall ensure that the design of the new bridge over Nipomo Creek shall include solid concrete railing, which decreases noise from traffic. In addition, the proposed Nipomo Creek crossing shall have an earthen bottom and the vegetation within the channel will be replanted with native species after construction is completed.	Design of new bridge over Nipomo Creek shall include specific characteristics	Prior to final design approval and construction activities	County of San Luis Obispo Environmental
F-22, Dust Control Program. The County and construction contractor shall ensure that a dust control program is in place during construction so that native trees and shrubs are not damaged due to dust covering the leaves. A maximum speed limit of 15 miles	Implement a dust control program	Prior to and during construction activities	County of San Luis Obispo Environmental

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per hour will be posted on all construction routes. Watering trucks shall be used regularly with sufficient frequency to eliminate visible dust behind construction vehicles.			
F-23, Speed Limits. The construction contractor shall ensure that all construction personnel obey speed limit rules both along public roads and designated project access. Driving off designated project routes shall not be permitted. This measure shall be included in the construction plan specifications.	A speed limit shall be enforced within the project area and project access roads	During construction activities	County of San Luis Obispo Environmental
F-24, Pollution Prevention. The County and construction contractor shall ensure that pollution prevention practices shall be employed to prevent contamination of native habitats by construction-related materials. All project-related trash shall be collected and properly disposed of at the end of each work day. This measure shall be included in the construction plan specifications.	Pollution prevention practices shall be used to prevent contamination of native habitats	During construction activities	County of San Luis Obispo Environmental
F-25, Best Management Practices. The County and construction contractor shall ensure that Best Management Practices (BMPs) are employed to minimize erosion from the construction of project facilities and deposition of soil or sediment in off-site areas, especially in the vicinity of the riparian/wetlands areas associated with Nipomo Creek, east of US 101. This measure shall be included in the construction plan specifications. Specific water quality BMPs are specified in Section V.L.5 of this EIR.	BMPs shall be employed to reduce erosion and deposition of soil	Prior to and during construction activities	County of San Luis Obispo Environmental
G. CULTURAL RESOURCES			
G-1, Archaeological Monitoring Plan. Prior to initiating construction, the County Department of Public Works shall prepare a monitoring plan with written procedures for archaeological resource monitoring. The County has the responsibility for ensuring that sites to be preserved in place are not impacted by construction activities, for evaluating unanticipated discoveries, and for providing recommendations on the subsequent treatment of such discoveries. This plan shall include	An archeological monitoring plan shall be developed and a post-grading report shall be prepared	Prior to, during, and subsequent to construction activities	County of San Luis Obispo Environmental

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procedures for protecting sites that are to be preserved in place and for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of newly-discovered resources as appropriate. As part of the monitoring program, the County shall involve local Native Americans. If the archaeological resources are found and determined to be significant, the County will determine appropriate actions for their exploration and data recovery. The County shall prepare excavated material to the point of identification. Following the completion of grading, the County Department of Public Works shall prepare a report detailing the results of the monitoring program to be presented to the County Department of Planning and Building. A copy of the final report should also be submitted to the Central Coast Information Center at the University of California, Santa Barbara. The report shall follow the guidelines of the California Office of Historic Preservation (1990) *Archaeological Resource Management Reports* (ARMR). Excavated finds shall be offered for curatorial purposes to the San Luis Obispo County Archaeological Society or another qualified scientific institution.			
G-2, Data Recovery Plan. Prior to initiating construction, the County Department of Public Works shall prepare and execute a data recovery plan. The plan shall include a background section discussing the resource, present a research design that addresses important questions, and present appropriate methods for the collection of relevant data. This plan shall follow the guidelines of the California Office of Historic Preservation (1991). The data recovery plan shall be developed in consultation with the County Department of Planning and Building.	A data recovery plan shall be developed by a qualified archaeological consultant	Prior to construction activities	County of San Luis Obispo Environmental

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Following the development of the data recovery plan, the County shall conduct the research program described in the plan. The County shall prepare excavated material to the point of identification. Following completion of the field and laboratory work, the County shall produce a report detailing the results of data recovery. A copy of the final report shall also be submitted to the Central Coast Information Center at the University of California, Santa Barbara. The report shall follow the guidelines of the California Office of Historic Preservation (1990) ARMR. Excavated finds shall be offered for curatorial purposes to the San Luis Obispo County Archaeological Society or another qualified scientific institution.			
G-3, Pre-Construction Archaeological Workshop. An archaeological workshop shall be conducted at the pre-construction meeting for construction personnel under the supervision of the County Department of Public Works. This workshop shall educate construction personnel about what types of cultural materials may be encountered during construction excavation. A procedure for notification of a qualified archaeologist about accidental discoveries and a communication network shall be developed so that if any suspected cultural materials are unearthed in areas not being monitored, they can be quickly examined and evaluated by qualified archaeologist and appropriate recommendations made. This workshop shall be repeated as needed for construction workers not attending pre-construction meetings and prior to their beginning any grading work.	A pre-construction archeological training session will be scheduled for construction personnel	Prior to construction activities	County of San Luis Obispo Environmental
G-4, Procedure for Handling Unanticipated Discoveries. If any cultural or paleontological material is unearthed during grading or excavation associated with the project, work in that area shall be halted until such material can be examined by the County and appropriate recommendations made.	Construction shall be halted in an area where cultural materials are unearthed	During construction activities	County of San Luis Obispo Environmental

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G-5, Procedure for Handling the Discovery of Human Remains. If human remains are encountered during grading or excavation associated with the project, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of the origin and disposition of the materials pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC). The NAHC will determine and notify a Most Likely Descendent (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The descendent must complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.	Notify the County Coroner if human remains are found	During construction activities	County of San Luis Obispo Environmental; Archeological Consultant
G-6, Paleontological Resource Impact Mitigation Program. Prior to initiating construction, a County approved project paleontologist shall prepare a Paleontological Resource Impact Mitigation Program (PRIMP) for ensuring that paleontological resources are kept below a level of significance. The PRIMP shall include the following steps: • The project paleontologist shall prepare a map to show where grading to depths below six feet would occur within Pleistocene formations, which is of primary concern for paleontological resources; • A trained paleontological monitor shall be present during rough grading below a depth of six feet and within Pleistocene sediments to the final depth of excavation for the entire length of the road alignment.	A Paleontological Resource Impact Mitigation Program shall be prepared	Prior to construction activities	County of San Luis Obispo Environmental

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The monitor will be empowered to temporarily halt or redirect construction activities to ensure avoidance of adverse impacts to paleontological resources. The monitor will be equipped to rapidly remove any large fossil specimens encountered during excavation. During monitoring, samples will be collected and processed to recover microvertebrate fossils. Processing will include wet screen washing and microscopic examination of the residual materials to identify small vertebrate remains; • Upon encountering a large deposit of bone, salvage of all bone in the area will be conducted in accordance with modern paleontological techniques; • All fossils collected during the project will be prepared to a reasonable point of identification. Excess sediment or matrix will be removed from the specimens to reduce the bulk and cost of storage. Itemized catalogs of all material collected and identified will be provided to the museum repository along with the specimens; • A report documenting the results of the monitoring and salvage activities and the significance of the fossils will be prepared; • All fossils collected during this work, along with the itemized inventory of these specimens, will be deposited in a museum repository for permanent curation and storage.			
H. AGRICULTURAL RESOURCES			
H-1, Agricultural Vehicle Crossings. The County of San Luis Obispo Department of Public Works shall ensure that, as part of project design, all project roadways which traverse any lands under cultivation shall provide an adequate number of at-grade agricultural vehicle crossings. These concrete road crossings shall be striped and marked	Provide an adequate number of at-grade agricultural vehicle crossings on roads that traverse agricultural land	During project design and prior to construction plan approval	County of San Luis Obispo Environmental

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with appropriate signage to warn motorists of the potential for agricultural vehicles on the roadway and shall be located to provide safe vehicle sight distance.	under cultivation		
H-2, Williamson Act Notice. Prior to completion of right-of-way acquisition, the County of San Luis Obispo shall prepare all required notices pursuant to Section 51291 of the Williamson Act for any roadways within established agricultural preserves.	Williamson Act notices shall be prepared	Prior to completion of right of way acquisition	County of San Luis Obispo Environmental
H-3, Cattle Undercrossing. Prior to initiating construction, the County of San Luis Obispo Department of Public Works shall contact property owners utilizing the existing cattle undercrossing. If the facility is still in use at that time, the County must provide a separate cattle undercrossing to allow unimpeded access through the interchange. If this is not possible, the County shall purchase the access rights to the cattle undercrossing.	A separate cattle-crossing shall be provided or the County shall purchase access rights to existing cattle-crossing	Prior to construction activities	County of San Luis Obispo Environmental
I. AESTHETICS			
I-1, Revegetation Plan. All slopes and areas disturbed by grading for any proposed project facilities shall be planted with drought resistant vegetation immediately following construction. A Revegetation Plan shall be prepared for approval by the County of San Luis Obispo, Department of Planning and Building prior to project grading. This plan shall specify the type and location of re-vegetation for all slopes and areas disturbed by grading for any of the project facilities. Larger shrubs and trees shall be planted in groupings or clusters in the vicinity of US 101 in order to buffer views from the freeway and to shield external views of the proposed interchange facility while also providing adequate line-of-sight for motorists. Sufficient topsoil will be stockpiled for use in all re-vegetation areas. The re-vegetation is intended to buffer views of project facilities while also providing adequate line-of-site for motorists. The location and type of vegetation are also important in screening facilities while also maintaining scenic background views.	A revegetation plan shall be prepared for approval by the County	Prior to construction activities	County of San Luis Obispo Environmental

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I-2, Project Lighting. All project lighting shall comply with requirements of the County of San Luis Obispo while also conforming to the type of lighting and extent of illumination currently employed by the California Department of Transportation. To the extent allowed, illumination levels and light standard heights shall be as low as possible while still providing for adequate safety. The number of street lights designed for project roadways shall be minimized to reduce potential light and glare impacts while providing required illumination for access and safety. Lighting plans shall be included in the project design plans to be reviewed by the County Department of Planning and Building.	Project lighting shall comply with County and Caltrans requirements	Prior to final design approval	County of San Luis Obispo Environmental
I-3, Downward Shielding of Light Sources. All street and interchange lighting shall be designed in a manner which orients light downward and is shielded to prevent upward and side illumination. Where possible, all exterior lighting should involve low pressure sodium vapor lamps or equivalent lighting technology which reduces potential excess light and glare.	Street and interchange lights shall be designed to prevent upward and side illumination	Prior to final design plan approval	County of San Luis Obispo Environmental
J. GEOLOGY AND SOILS			
J-1, Conformance to Applicable Standards. Project design and grading plans prepared by the Project Engineer shall conform to applicable County and State Construction Standards for roads and bridges. These standards must be implemented in the plans prior to County approval of the final plans, specifications, and estimates (PS&E).	Design and grading plans shall conform to applicable standards	Prior to approval of final design plans	County of San Luis Obispo Environmental; State Inspector
J-2, Project Design Assumptions. Project design shall assume that project facilities will be exposed to ground shaking commensurate with a Maximum Credible Earthquake. These design specifications shall be incorporated in the design plan prepared by the Project Engineer prior to County approval of the PS&E.	The project design shall prepare for exposure to Maximum Credible Earthquake	Prior to approval of final design plans	County of San Luis Obispo Environmental
J-3, Recommendations of the Geotechnical Engineer. The recommendations of a design-level geotechnical investigation performed by	Recommendations provided by a Geotechnical	Prior to approval of final design	County of San Luis Obispo Environmental

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a qualified Geotechnical Engineer shall be implemented in the design plan prepared by the Project Engineer prior to County approval of the final PS&E. These recommendations will include detailed geologic investigations related to liquefaction, lateral spreading, and collapsible/expansive soils.	Engineer shall be incorporated into project design	plans	
J-4, Mitigation of Potentially Liquefiable Soils. If areas of potentially liquefiable soils are identified during design-level geotechnical investigations, appropriate design measures shall be implemented in the design plan prepared by the Project Engineer prior to County approval of the final PS&E. These design measures will include: • Realign interchange to avoid liquefiable soil; • Elevate the roadway on a compacted fill embankment; • Densify liquefiable soils by accepted ground improvement methods including deep dynamic compaction or installation of stone columns. Any project design modifications that expand the physical area of effect beyond the project limits as defined in this EIR will require subsequent environmental review and analysis by the County to conform to the requirements of CEQA.	Identification of liquefiable soils shall be accompanied by appropriate design measures	Prior to approval of final design plans	County of San Luis Obispo Environmental
J-5, **Mitigation of Potentially Collapsible Soils.** If any potentially collapsible soil is identified during design-level geotechnical investigations, the affected area shall be temporarily flooded with water by the Project Engineer or Project Contractor to induce collapse before construction. This requirement shall be shown on all applicable construction plans.	Potentially collapsible soils shall be flooded	During design-level geotechnical investigations, prior to construction	County of San Luis Obispo Environmental
J-6, Mitigation of Potentially Expansive Soils. If any potentially expansive soil is identified during design-level geotechnical investigations, appropriate measures shall be implemented in the design plan prepared by	Potentially expansive soils shall be identified and appropriate design measures	Prior to approval of final design	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
the Project Engineer prior to County approval of the final PS&E. These measures will include: • Remove and replace any excessively expansive material identified; • Water, condition, and control compaction of fill; and • Establish positive drainage to suitable points in a controlled manner without ponding.	shall be implemented		
J-7, Mitigation of Landslides. Landsliding potential of cut/fill slopes associated with the US 101 interchange can be reduced by implementing the following measures in the design plan prepared by the Project Engineer prior to County approval of the final PS&E: • Design the freeway structures to withstand the maximum credible earthquake; • Construct fill and/or cut slopes no steeper than 2:1 (horizontal:vertical); • Establish vegetation along slopes immediately after construction pursuant to County requirements; • If required vegetation is not fully established by the beginning of the rainy season, additional erosion control measures shall be installed along slopes prior to the season and any rain events pursuant to County requirements; and • Plant native drought-resistant vegetation which requires limited irrigation pursuant to County requirements.	The possibility of landslides shall be reduced by including appropriate design measures	Prior to final design approval	County of San Luis Obispo Environmental
J-8, Mitigation of Potential Erosion. To control potential erosion, all slopes and areas disturbed by grading for any proposed project facilities shall be planted with native drought resistant vegetation by the County's designated landscape contractor immediately following each applicable phase of construction.	Drought resistant vegetation shall be planted on slopes to reduce erosion	Immediately following construction phases	County of San Luis Obispo Environmental

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J-9, **Erosion Control Maintenance.** Periodic maintenance of areas disturbed by construction of project facilities shall be conducted during and after project construction by the Project Contractor in order to control erosion gullying and wind erosion.	Periodic maintenance of disturbed areas shall be conducted	During and after construction activities	County of San Luis Obispo Environmental
K. DRAINAGE EROSION SEDIMENTATION			
K-1, **Construction During the Dry Season.** Prior to approval by the County, the final PS&E for the project shall specify that construction of any project facilities within or adjacent to Nipomo Creek east of the proposed US 101 interchange will take place during the dry season. As defined by County Land Use Ordinance Section 22.05.036, this season occurs between April 15 and October 15.	Construction of project facilities east of US 101 interchange shall occur during dry season	Prior to approval of final design plans	County of San Luis Obispo Environmental
K-2, Erosion Control Plan for Rainy Season Construction. Prior to approval of any grading plan or permit by the County, the project engineer shall complete an erosion control plan for any construction proposed to occur during the rainy season. The plan shall provide methods for controlling erosion, including—but not limited to—erosion fencing, hay bales, temporary siltation basins, and erosion control blankets. This plan shall conform to Section 22.05.036 of the County Land Use Ordinance. Replacement vegetation and landscaping should be planted sufficiently in advance of October 15 to allow plant roots time to become established and effectively protect the soil.	An Erosion Control Plan specific to the rainy season shall be developed Install Replacement vegetation and landscaping	Prior to approval of grading plans Prior to Oct. 15	County of San Luis Obispo Environmental County of San Luis Obispo Environmental
K-3, Erosion Control Plan for Dry Season Construction. Prior to approval of any grading plan or permit by the County, the project engineer shall complete an erosion control plan for any construction on Nipomo Mesa proposed to occur during the dry season. This plan shall provide methods for controlling wind erosion, including—but not limited to—using a water truck to apply water to disturbed and unvegetated surfaces. This	An Erosion Control Plan specific to the dry season shall be developed	Prior to approval of grading plans	County of San Luis Obispo Environmental

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plan shall conform to Section 22.05.036 of the County Land Use Ordinance.			
K-4, Monitoring of Project Area. Following completion of each project construction phase, the County monitor shall evaluate the area following storms to determine whether additional work must be done to stabilize areas subject to surface erosion. The County monitor shall document the post-storm condition of areas susceptible to erosion.	A need for additional maintenance shall be determined following each construction phase	Following completion of each project construction phase	County of San Luis Obispo Environmental
K-5, Design of Equestrian Trails. Prior to approving a final PS&E for construction of the equestrian trails located adjacent to the proposed road extension, the County shall require that the PS&E specify the use of compacted native soils (where appropriate), Class 3 aggregate base materials, or similar long-lasting products to minimize erosion on the trail surfaces.	Equestrian Trail design shall include long-lasting material to minimize erosion	Prior to final design approval	County of San Luis Obispo Environmental
L. WATER QUALITY			
L-1, NPDES Permit (County Compliance). Prior to the issuance of grading permits, the County shall ensure that the project complies with the State General Construction Activity NPDES Permit. The construction contractor shall demonstrate to the County that coverage has been obtained under the State General Construction Activity NPDES Permit by providing a copy of the Notice of Intent (NOI) submitted to the State Water Resources Control Board (SWRCB) and a copy of the subsequent notification of the issuance of a Waste Discharge Identification (WDID) number or other proof of filing. In accordance with the permit, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for the project. Implementation of the SWPPP shall reduce the discharge of pollutants to the maximum extent practical using management practices, control techniques and systems, design and engineering methods, and such other provisions as are appropriate. A copy of the SWPPP shall be kept at the project site and shall be available to the County upon request.	An NPDES permit shall be obtained. Notices shall be provided and a SWPPP shall be prepared	Prior to grading plan approval	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
L-2, NPDES Permit (Caltrans Compliance). Prior to the issuance of grading permits, Caltrans shall comply with the provisions of the *National Pollutant Discharge Elimination System (NPDES) Permit Statewide Storm Water Permit and Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation* Order No. 99-06-DWQ NPDES No. CAS000003, as they relate to construction activities for the portion of the project within their jurisdiction. This shall include a *Notification of Construction* to the Central Coast Regional Water Quality Control Board at least 30 days prior to the start of construction, preparation and implementation of a Storm Water Pollution Prevention Plan, and a *Notice of Completion* to the CCRWQCB upon completion of construction and stabilization of the site.	Caltrans shall comply with NPDES statewide permit requirements	Prior to approval of grading plans	County of San Luis Obispo Environmental; Caltrans
L-3, Best Management Practices. Prior to construction, the County and Caltrans shall follow the procedures outlined in the *Storm Water Quality Handbooks, Project Planning and Design Guide* and other applicable County guidelines for implementing treatment best management practices (BMPs) for the project. This shall include coordination with the Central Coast Regional Water Quality Control Board (CCRWQCB) with respect to feasibility, maintenance, and monitoring of Treatment BMPs as set forth in the County's Storm Water Management Program and Caltrans *Statewide Storm Water Management Plan*.	BMPs shall be implemented by the County and Caltrans	Prior to construction activities	County of San Luis Obispo Environmental
M. HAZARDOUS MATERIALS			
M-1, Soil Contamination. To confirm whether lead contaminants are present in surface soils adjacent to US 101, soil sampling and testing shall be conducted by a County-approved soil scientist prior to any grading or construction activities. Should elevated levels of lead or petroleum contaminants be found, a Health and Safety Plan shall be prepared by a qualified	Soil sampling and testing shall be conducted A Health and Safety Plan shall be prepared if elevated levels of	Prior to grading or construction activities Prior to grading or construction activities	County of San Luis Obispo Environmental and a qualified monitor for the compliance program/Health and Safety Plan

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
individual approved by the County. Work practices and worker health and safety must conform to California Code of Regulations, Title 8, Section 1532.1 (Construction Safety Orders). The compliance program required under this section, which would include the health and safety plan, must be prepared by an industrial hygienist certified by the American Board of Industrial Hygiene. A qualified person who is capable of taking corrective action must monitor the compliance program/Health and Safety Plan.	contaminants are found		
M-2, Pacific Gas & Electric Pipeline. The existing PG&E pipeline along the western side of US 101 will require special consideration during project grading activities associated with proposed Willow Road and interchange alignment. Optional design considerations include: • Avoidance of the existing pipeline; • Stabilization of the existing pipeline through strengthening materials; • Relocation of the existing pipeline outside of the axis of grading. Project design and construction plans shall include specifications for the appropriate method to avoid or remedy any impact to the pipeline. If avoidance is not feasible, the County shall consult PG&E for appropriate means to ensure that the pipeline is stabilized and strengthened. If it is determined that the pipeline must be relocated, the County of San Luis Obispo will analyze for the potential environmental impacts (e.g. archaeological, biological, etc.) caused by relocating the line. A Relocation Analysis will be conducted prior to construction activities and the County will either redesign construction plans or provide adequate mitigation measures to reduce potential impacts to less than significant levels. The mitigation measures will meet the performance criteria established by PG&E and the State Fire Marshall for pipeline	Relocation, stabilization or avoidance of the PG&E pipeline shall be determined	Prior to construction activities	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
stability, security and proper function to prevent leakage or other hazardous effects.			
M-3, Unocal Pipelines. The two existing Unocal pipelines along the eastern alignment of US 101, east of Nipomo Creek and west of Thompson Avenue will require special consideration during project grading activities associated with proposed Willow Road and interchange alignment. Considerations include: • Avoidance of the existing pipelines; • Stabilization of the existing pipelines through strengthening materials; • Relocation of the existing pipelines outside of the axis of grading. If the pipelines cannot be avoided, and stabilization of the lines is feasible, Unocal shall be consulted on appropriate means to stabilize the pipelines. If it is determined that one or both of the lines must be relocated, the County of San Luis Obispo will analyze for potential environmental impacts of relocating the line. A relocation analysis will be conducted prior to construction activities and the County will either redesign construction plans or provide adequate mitigation measures to reduce potential impacts to less than significant levels. The mitigation measures will meet the performance criteria established by Unocal and the State Fire Marshall for pipeline stability, security and proper function to prevent leakage or other hazardous effects.	Relocation, stabilization or avoidance of the Unocal pipeline shall be determined	Prior to construction activities	County of San Luis Obispo Environmental
M-4, Unocal Pipeline Monitoring. Due to the potential impacts of a leaky or broken oil pipeline, the Unocal pipeline and surrounding areas shall be monitored by a County-designated monitor for the presence or absence of leaks and contaminants prior to project construction in the affected areas. If leaks or contaminants are detected, proper corrective actions shall be taken to comply with all regulatory codes. At a minimum, the	The presence or absence of leaks or contaminates in the Unocal Pipeline shall be determined	Prior to construction activities	County of San Luis Obispo Environmental

Mitigation Measure Summary	Specific Action	Mitigation Milestone	Responsible Monitoring Party
contractor shall notify the County engineer and Unocal to turn off the line, as necessary; the affected soil shall be removed and monitoring shall be conducted in accordance with the County Environmental Health Department.			
N. SOCIO-ECONOMICS			
No mitigation measures feasible.			

II.C. ISSUES RAISED BY AGENCIES AND THE PUBLIC

In June 2004, the County of San Luis Obispo distributed a Notice of Preparation (NOP) of the SEIR. The purpose of the NOP was to identify the full range and scope of environmental issues to be examined in the SEIR. A public meeting was held during the public review period of the NOP to provide a forum for public input. Issues raised in response to the NOP and at the public meeting are listed below, including the source and date of the comment received.

Respondent	Date	Concern
U.S. Department of Homeland Security/FEMA	June 30, 2004	Development may require FIRM[1] revision; Development must comply with County Flood Prevention Ordinance.
U.S. Department of Commerce NOAA/NMFS	June 15, 2004	Project impacts on steelhead and their habitat must be addressed.
U.S. Army Corps of Engineers	June 2, 2004	Development may require Corps of Engineers Section 404 Permit
County of San Luis Obispo Public Works Department	July 7, 2004	Location of proposed recreation trail must be determined.
Michael Winn, Nipomo	June 9, 2004	Phase 3 (US 101-Thompson Road) should be eliminated because of impacts to agricultural land, floodplain & riparian habitat
Jeanne Dougall, Arroyo Grande	June 9, 2004	Northbound ramps are being built years after southbound ramps yet they are needed equally.
State of California, Department of Water Resources	June 28, 2005	The County should be aware that the project area is in close proximity to the existing Coastal Aqueduct Pipeline and should contact the Department of Water Resources to coordinate any foreseeable work within the State Water Project right of way.

II.D. ISSUES TO BE RESOLVED

The following issue related to the proposed project remains to be resolved:

Approval of the proposed project interchange design and appurtenant facilities by the California Department of Transportation and Federal Highways Administration.

[1] Federal Insurance Rate Map

III. PROJECT DESCRIPTION

III.A. PROJECT BACKGROUND

The County of San Luis Obispo (County) proposes to construct the extension of Willow Road and connect it with U.S. Route 101 (US 101) in the community of Nipomo, south San Luis Obispo County (Figure III-1 and III-2). The proposed project includes the extension of Willow Road east (including minor realignment from its existing terminus approximately 1,000 feet west of Pomeroy Road) to Thompson Avenue; construction of a frontage road between Willow Road and Sandydale Drive; construction of a new US 101/Willow Road interchange between postmile (PM) 5.75 and PM 6.0; and related cross street and drainage improvements. The County will be the Lead Agency for environmental approval under the California Environmental Quality Act (CEQA).

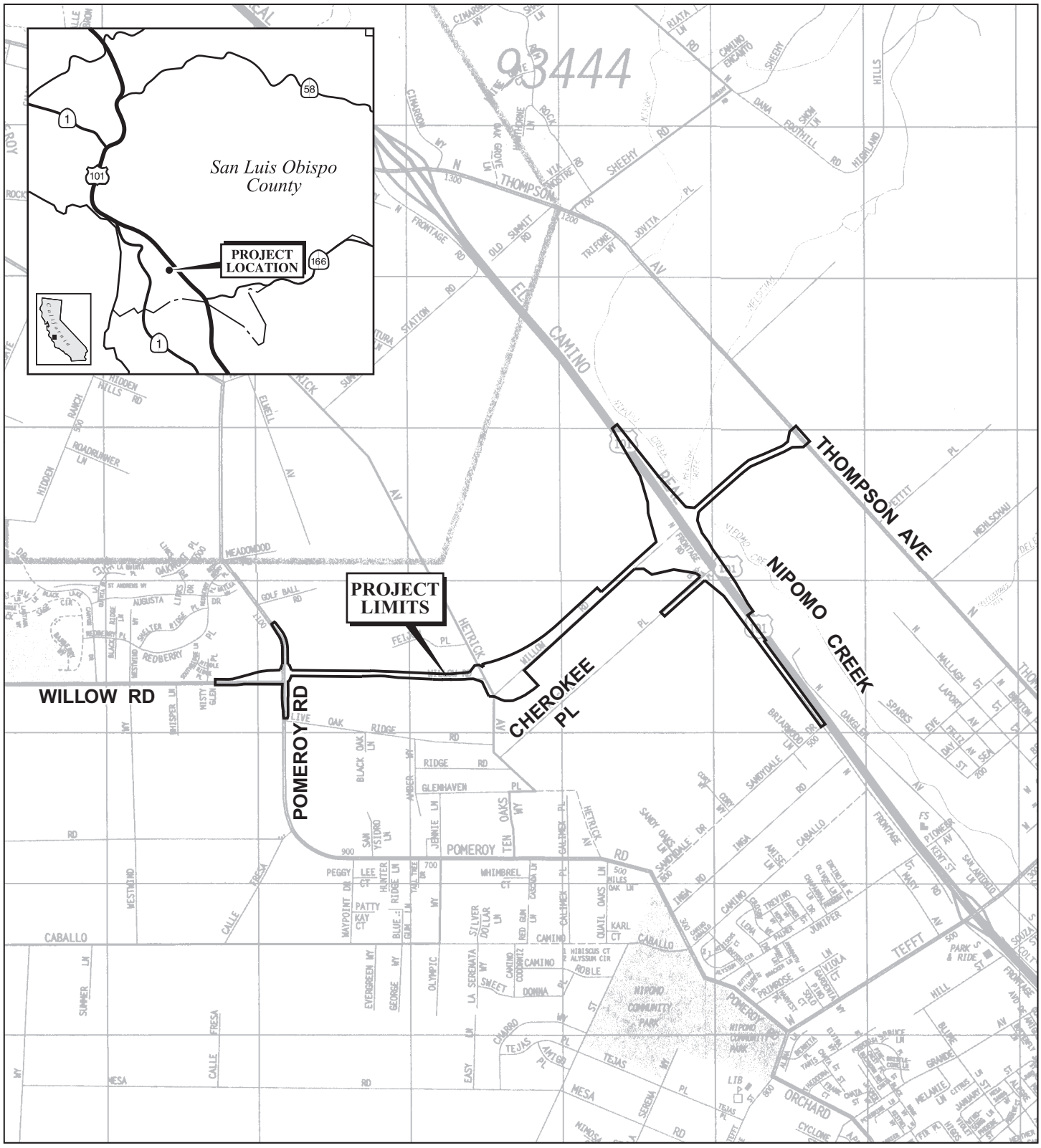
The proposed alignment and interchange are shown in the Route 101 Corridor Study (1988), the South County Circulation Study (1994/1995) and again in the 2000 model update, and the Circulation Element of the County General Plan. The proposed extension of Willow Road and the interchange are identified in the San Luis Obispo Council of Governments (SLOCOG) Regional Transportation Plan (RTP) as a major proposed short-term project. The Willow Road interchange is listed in SLOCOG's Regional Transportation Improvement Program (RTIP) (Project ID #RPSTPL-5949[072]). The project represents a part of the long-range circulation program for the South County planning area. The proposed project provides an integral component of the area's future transportation network and facilitates the efficient movement of people and goods through the community of Nipomo.

The Board of Supervisors originally considered seven alternative alignments for the extension of Willow Road, six of which were brought forward for the Board's consideration at its January 10, 1995 meeting. Two of the considered alignments (Alignments 2 and 4) were selected for further analysis and design leading to a final route selection. A Tier 1 Environmental Impact Report (EIR) was prepared by Douglas Wood and Associates, Inc. on behalf of the County in 1998 for Alignments 2 and 4 and the frontage road alignment. In March 1999, the Board certified the Final EIR and selected Alignment 2 as the preferred project alignment. The FEIR specified that subsequent design refinements for the road extension, interchange, and frontage road would be evaluated in a Tier 2 construction-level environmental document. The second-tier evaluation is described in more detail below.

III.B. PROJECT OBJECTIVES

The primary goal of the proposed project is to provide a new direct connection between State Route 1 (SR 1) and US 101. In doing so, the proposed project will also achieve the following objectives:

- Relieve traffic congestion in order to improve traffic flow and levels of service (LOS) at the US 101 interchanges at Tefft Street and Los Berros Road;
- Provide circulation improvements to support planned land uses as identified in the South County Area Plan;
- Reduce future traffic levels on Los Berros Road, West Tefft Street, and Pomeroy Road;



LSA

FIGURE III-1

N

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SOURCE: THE THOMAS GUIDE

Willow Road Extension/U.S. 101 Interchange Project
Project Vicinity

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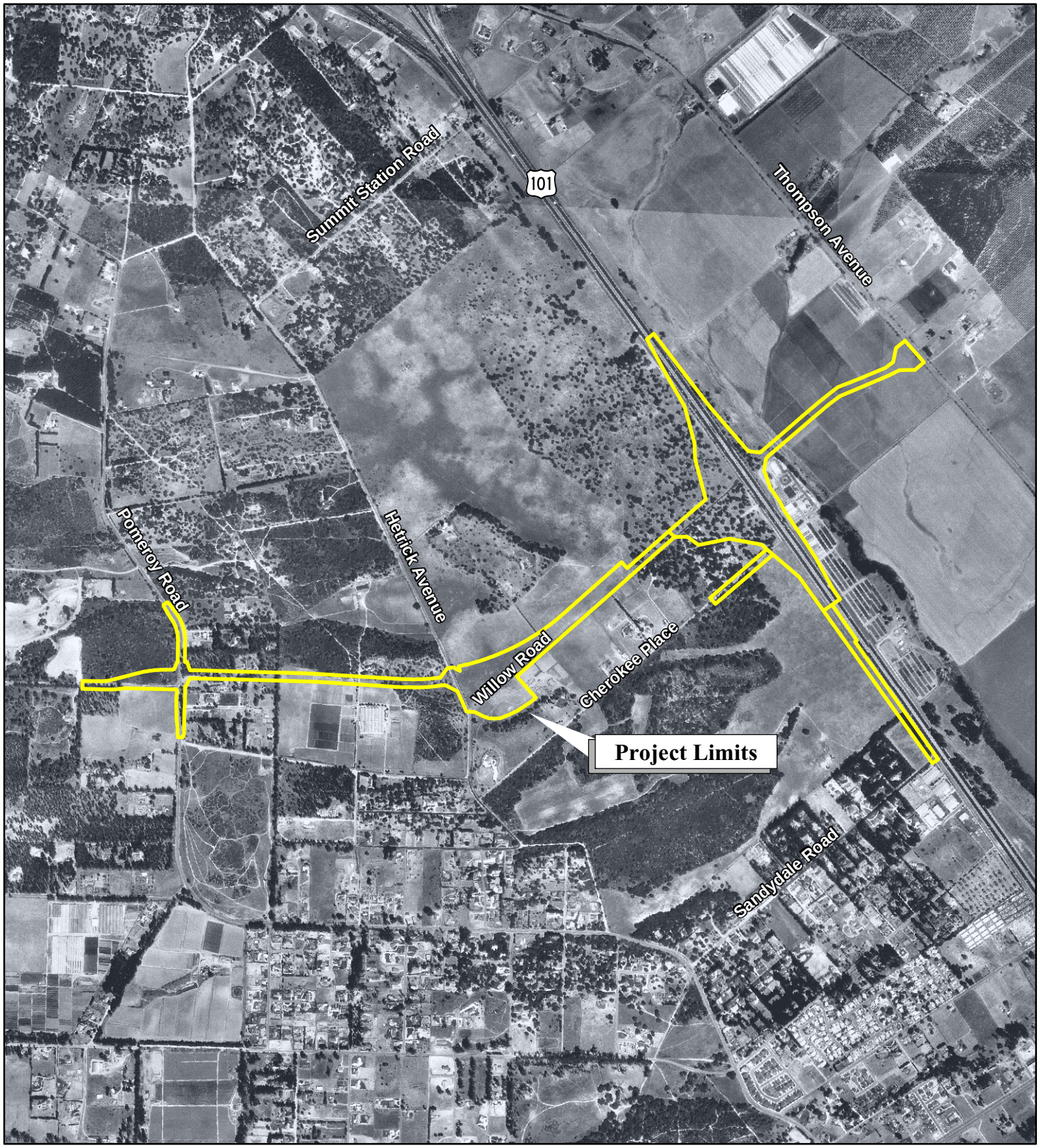

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FIGURE III-2

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Willow Road Extension/U.S. 101 Interchange Project

Project Location Map

SOURCE: DOQQ (1m)

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- Reduce travel length and time in the Nipomo area;
- Reduce the need for major modification of the US 101/Tefft Street and Los Berros-Thompson Road interchanges;
- Improve traffic safety by diverting future traffic from nonstandard County roadways to a full standard roadway;
- Provide enhanced emergency access to the residents and businesses of the Nipomo area through the provision of an alternative east-west access and a connection to US 101;
- Provide a new recreational trail from Thompson Avenue to SR-1, improving access to the coastal zone

Traffic generally flows freely in the area between the Los Berros Road/Thompson Street interchange and the Tefft Street interchange. The freeway ramps operate at acceptable levels during the a.m. and p.m. peak hour. Most arterial intersections are also operating at acceptable levels during the a.m. and p.m. peak hour. The southbound US 101 ramp intersection with Tefft Street, however, experiences unacceptably poor traffic conditions during both the a.m. and p.m. peak hours. The relatively high traffic volumes and the existing intersection configuration contribute to poor operations at this location.

Traffic operations at both the Tefft Street interchange and the Los Berros Road interchange are expected to worsen as traffic volumes increase throughout the area. Anticipated increases in traffic volume result from population and employment growth at local and regional levels. The existing local street network does not have sufficient capacity to handle future traffic volumes either to or from US 101.

The proposed project will allow the County to concentrate limited funds on providing a transportation improvement that will lessen the impacts to the existing roadway network as the area continues to develop. The project will help to ease congestion at both the Tefft Street and Los Berros/Thompson Street interchanges by creating another interchange that lies close to planned development. The project will provide a direct route to several developed or approved Specific Plans in South County, such as Cypress Ridge, Black Lake, and Woodlands. The new link between US 101 west to the Black Lake-Calendar area will also provide substantial benefits to local traffic circulation, including a reduction in future vehicle miles traveled on the Nipomo Mesa and reduced traffic loads on nonstandard roadways.

Portions of the Nipomo Mesa are not easily accessible from US 101 due to the distance between existing interchanges and the amount of unpaved roads within the local roadway network. As a result, access for fire protection and emergency response services in the Nipomo area is limited. Nipomo Station 20 (located at 450 Pioneer Street) provides fire protection and emergency response services to the Nipomo Mesa. The proposed US 101/Willow Road interchange will provide a direct route from Nipomo Station 20 to existing and proposed developments east and west of US 101, reducing emergency response times in this area. This interchange will also provide for better emergency access to US 101 in the event that the Tefft Street or Los Berros Road interchanges are closed.

Besides improving circulation and safety within the area, the proposed project may also improve recreational access to the coast. The County Trails Plan indicates a trail along Willow Road in the vicinity of the proposed project. The project design provides space for a future equestrian path.

III.C. PROJECT LOCATION

Figure III-1 depicts the proposed project's regional location and project vicinity. Figure III-2 provides an aerial photograph of the project area and the immediate surroundings. This project area centers on US 101. The Tefft Street interchange defines the southern boundary, and the Los Berros/Thompson Road interchange defines the boundary to the north. To the west, the project begins near the intersection of Pomeroy Road and Willow Road. Thompson Avenue forms the eastern boundary of the project area.

III.D. PROJECT CHARACTERISTICS

1. Extension of Willow Road

The proposed extension of Willow Road begins approximately 1,000 feet west of Pomeroy Road, running east and northeast approximately 2.5 miles to its termination at Thompson Road, located east of US 101 (Figure III-3). The Willow Road extension will be a two-lane roadway (one lane in each direction) within a 100-foot right-of-way to accommodate a 40-foot-wide roadway with two 12-foot travel lanes, a 14-foot-wide center turn (auxiliary) lane in selected areas, two 8-foot shoulders, and an 8-foot area set aside for a future equestrian path.

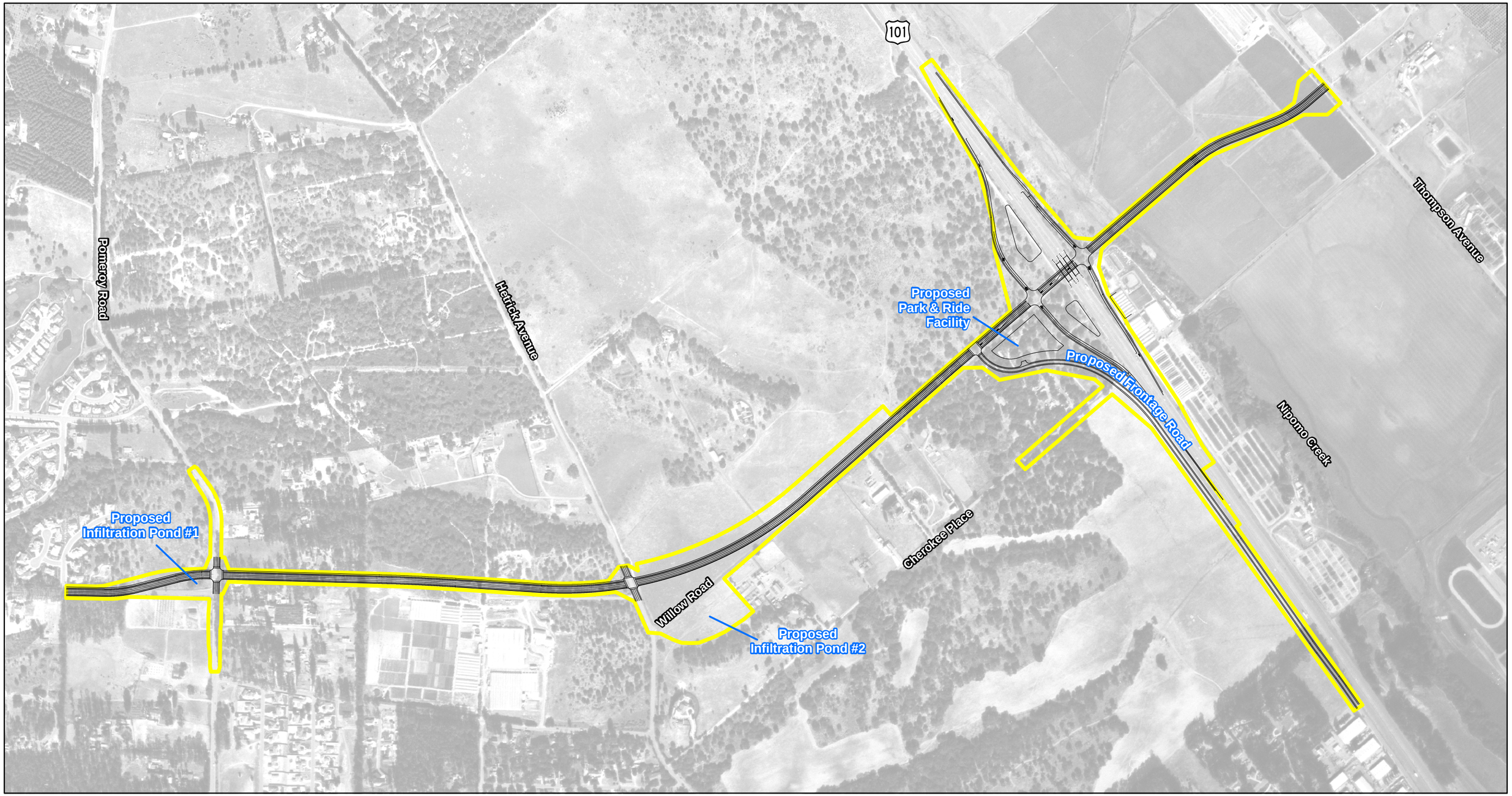
Local access to the proposed Willow Road extension will be via local roadways and limited driveway access. A center turn (auxiliary) lane will be provided at the intersections with Pomeroy Road, Hetrick Avenue, Thompson Road, the proposed frontage road west of US 101, and the proposed US 101/Willow Road interchange ramps. Based upon future project traffic generation from the build out of the area's land use plan, the roadway is expected to carry over 15,000 trips per day and will have a minimum design speed of 55 miles per hour. No substantive changes to the configuration of the existing segments of Willow Road are anticipated except at its connection with Hetrick Road. Improvements planned for Pomeroy Road where it intersects with Willow Road include widening of Pomeroy (both the north and south legs of the intersection) to accommodate left turn lanes, two travel lanes, and shoulders on both sides of the road. The left turn segment of each leg will be approximately 250 feet in length. A two-lane bridge is proposed to be constructed at the crossing of Willow Road over Nipomo Creek, east of US 101.

2. US 101/Willow Road Interchange

An interchange is proposed where the extension of Willow Road would cross US 101, between US 101 Post Mile (PM) 5.75 and PM 6.0 (Figure III-3). The interchange will be constructed as an undercrossing and includes the construction of two two-lane concrete bridges to carry northbound and southbound US 101 traffic over Willow Road, approach slabs, and on- and off-ramps. The interchange will be constructed to accommodate any future widening of US 101 to six lanes and Willow Road to four lanes, as well as the 8 foot set-aside for a future equestrian trail.

3. Frontage Road

The proposed frontage road, with a 60 foot right-of-way, between Willow Road and Sandydale Drive is proposed to be located adjacent to the US 101 right-of-way (Figure III-3). The new 0.8-mile roadway will be located within a 60-foot right-of-way to accommodate a 40-foot-wide two-lane roadway with two 12-foot travel lanes and two 8-foot bicycle lanes.



LSA

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Feet

Legend

Project Limits

Geometrics

FIGURE III-3

Willow Road Extension/U.S. 101 Interchange Project

Conceptual Site Plan

SOURCE: Geometrics - Rajappan & Meyer Consulting Engineers Inc. and Aerial - County of San Luis Obispo.

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4. Park and Ride Facility

The southwest quadrant of the proposed future interchange at US 101/Willow Road, outside of the southbound on-ramp, is the proposed location for a future park and ride facility (Figure III-3). The park and ride lot would provide approximately 50 spaces and will include a bus drop-off area and bicycle racks.

5. Infiltration Basins

The proposed extension of Willow Road will add an additional 2.5 miles of roadway between Pomeroy Road and Thompson Road, in addition to 0.8 mile of frontage road between the new extension of Willow Road and Sandydale Drive. This new roadway will not only add to the volume of runoff to the current drainage systems due to the imperviousness of the asphalt, but it will also essentially bisect natural drainage basins, thus causing a man-made barrier to natural runoff. The County dictates in its Standard Specifications Manual that all runoff caused by impervious bituminous asphalt must be routed into infiltration basins to ultimately be absorbed by the soil. The remaining natural runoff must be routed across the proposed roadway and is to continue downgrade on its current course. Infiltration basins will serve to capture and dispose of the natural runoff caused by precipitation on the new asphalt so as to not affect the natural drainage patterns.

Two separate basins along the Willow Road alignment are required to accommodate the increased runoff. Infiltration Basins (IB) 1 and 2 are identified on Figure III-3. Each basin has distinct design characteristics, and therefore each basin has a unique configuration. The depth of the infiltration basins will be up to two feet with 5:1 sideslopes.

Drainage swales will be provided along the extended segment of Willow Road, at the interchange, and at the frontage road north of Sandydale Drive. The swales will perform similar functions as detention basins. Buffer strips off the edge of pavement will be earthen and vegetated with native grasses. The native vegetation will be designed to capture the oils and fluids from the roadway surface runoff during storm events.

6. Cherokee Place

The project also includes the construction of Cherokee Place east for a distance of 1,000 feet to connect with the proposed frontage road west of US 101. Cherokee Place will be graded and paved to meet County standards. The proposed roadway is shown in Figure III-3.

III.E. REQUIRED PERMITS AND APPROVALS

The proposed extension of Willow Road entails the following decisions by the County:

- Certification of the Supplemental Environmental Impact Report for the proposed Willow Road extension and associated facilities by the Board of Supervisors; and

- Approval of the Mitigation Monitoring Program for the proposed Willow Road extension and associated facilities by the Board of Supervisors;

The proposed extension of Willow Road crosses Nipomo Creek. This project may therefore result in the discharge of dredged or fill material into "waters of the United States" and/or adjacent wetlands. Consequently, the project also requires the County to obtain the following permits prior to project construction:

- A Section 404 permit under the federal Clean Water Act from the U.S. Army Corps of Engineers;
- A Public Resources Code Section 1602 Streambed Alteration Agreement from the State of California, Department of Fish and Game;
- A Section 401 water quality certification from the Regional Water Quality Control Board;
- A National Pollution Discharge Elimination System (NPDES) permit to comply with Section 401 of the federal Clean Water Act from the State Water Quality Control Board;
- An Encroachment Permit from the State of California, Department of Water Resources (DWR) for construction of the project across the DWR Coastal Aqueduct Pipeline running along the east side of Nipomo Creek; and
- An Encroachment Permit from the State of California, Department of Transportation for construction of the US 101/Willow Road interchange.

III.F. PROJECT PHASING

The following provides the anticipated phasing of the proposed project design, right of way acquisition and construction.

2003/2005 Project Approval and Environmental Document
Willow Road Extension Design
US 101 Interchange Design

2006/2007 Right of Way Acquisition

Construct Willow Road Extension

2008/2009 Phase I - 1,000 feet east of Pomeroy Road to Hetrick Road

Phase II - Hetrick Road to US 101

2009/2010 Construct Frontage Road

2010/2011 Construct US 101 Interchange

Construct Willow Road under 101

Future Phase III - US 101 to Thompson Avenue

IV. ENVIRONMENTAL SETTING

IV.A. EXISTING CONDITIONS

1. Land Use

The project area currently contains a variety of land uses including agricultural farmlands, nurseries, recreation, open space and low density residential uses. The area to the east of Hetrick Road and north of Willow Road contains pasture lands used for cattle grazing, the C&M Nursery, open grasslands, and scattered homesites on large parcels. The land west of Pomeroy Road includes the Black Lake Golf Course and residences. The remainder of the land around the project area generally contains homes on relatively small lots, to which access is provided by rural roads.

2. Traffic and Circulation

US 101 provides regional access to the project area. US 101 serves as an important route for traffic between the "Five Cities" area (including Arroyo Grande, Grover Beach, Pismo Beach, Shell Beach, and Oceano) and San Luis Obispo to the north and Santa Maria to the south. Existing nearby US 101 interchanges are located at Tefft Street and Los Berros/Thompson Road. These interchanges provide access to the local roadway system. Tefft Street is a 4-lane arterial road that defines the southern boundary of the project area. Los Berros Road is a two-lane arterial road that defines the northern boundary of the project area. Thompson Road is a two-lane arterial road along the eastern boundary of the project area and Pomeroy Road is a two-lane rural road along the western boundary of the project area. Los Berros Road and Thompson Road provide access to US 101 for traffic originating from the west and east, respectively. Tefft Street is the primary arterial serving the community of Nipomo. Pomeroy Road connects Los Berros Road with Tefft Street, providing a key route for traffic from the interior of Nipomo Mesa heading to US 101.

In additions to these roads, several other roads are key to the circulation system in the project area. Willow Road is a discontinuous rural road that provides a primary link to State Route 1 on the Nipomo Mesa, Black Lake Village, rural residences, nurseries, and vacant lots along its various segments. Hetrick Avenue is a narrow two-lane rural road (portions currently unmaintained) that runs roughly northwest-southeast between Summit Station Road and Pomeroy Road.

3. Noise

The existing roadways that provide access to and through the project area also provide the greatest source of noise. Noise within the project area is primarily derived from traffic along US 101, Thompson Avenue, Pomeroy Road, Willow Road, and Hetrick Avenue. Exterior ambient noise levels at residences within the project area range from 42 to 58 dBA L_{dn}. This noise level range falls below the County noise standard of 60 dBA L_{dn}.

4. Climate and Air Quality

While traffic generates some of the pollutants that can affect air quality, climatic conditions also have considerable influence on air quality. Seasonal variation in the strength and position of an area of high pressure over the eastern Pacific affects the circulation of air onshore and offshore. This variation influences the dispersal and concentration of pollutants. Consequently, concentrations of pollutants are most likely to occur during the fall and winter, when pollutants may become trapped onshore or when winds transport pollutant-laden air from the east and southeast.

Airborne pollutants for which state standards exist include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and particulates less than 10 microns (PM_{10}). The Nipomo Regional Park air quality monitoring station monitors four of these pollutants: ozone, NO_2, SO_2, and PM_{10}. The closest monitoring station with CO and $PM_{2.5}$ data is the Santa Maria station. CO levels have been below state standards during the past three years. Ozone levels, NO_2 levels, and SO_2 levels have been lower than state standards for the past five years. Only the PM_{10} levels have exceeded state standards recently, having exceeded the state standard from 1 to 3 days per year in the past five years.

5. Public Services

The County of San Luis Obispo provides law enforcement services to the project area through their Oceano substation. Traffic enforcement is provided by the California Highway Patrol. The California Department of Forestry/San Luis Obispo County Fire Department provides fire protection and emergency response services for the Nipomo area. The project area is also served primarily from the Nipomo and Nipomo Mesa (Station 22) Stations. The Nipomo area is served by the Southern California Gas Company for natural gas service and Pacific Gas and Electric for electrical service. The Nipomo Community Services District provides water and wastewater services. Telephone and cable television services are provided by Pacific Bell and Charter Communications respectively. Underground utilities are located throughout the project area and an overhead electric power line runs from east of Pomeroy, over US 101 and over to Thompson Avenue.

6. Biological Resources

The vegetation on the property is a mosaic of several habitat types. Seventeen plant communities, or variations of these communities, exist within the study area. Of the seventeen communities within the project area, state and/or local agencies consider four of them (oak woodland, maritime chaparral, willow riparian, and freshwater marsh) to be sensitive primary plant communities. The Nipomo Creek drainage supports the freshwater marsh and willow riparian habitats, increasing the diversity of habitat in the project area. No federally listed, state listed, or proposed endangered or threatened plant species were observed within any of the plant communities during surveys on the project site. In addition to native and naturalized plant communities, the project area contains ornamental plantings, eucalyptus groves, agricultural lands, and developed and/or disturbed areas. Disturbed/developed areas and oak woodland predominate within the project area.

Wildlife species occurring within the study area are characteristic of those found within these habitats. One sensitive reptile species, California horned lizard (*Phrynosoma coronatum frontale*), was observed during both the 1997 and the 2003 surveys. The California horned lizard is a State Species of Special Concern. In addition, habitat within and adjacent to the study area is appropriate

for this species, so significant substantial populations may be present in the vicinity. Two additional sensitive species (loggerhead shrike [*Lanius ludovicianus*] and the American badger [*Taxidea taxus*]) were observed during the 1997 surveys but not during 2003 surveys. Both of these species are also State Species of Special Concern.

7. Cultural Resources

Twenty-two archaeological sites occur within one mile of the project area. Five of these sites—CA-SLO-1319H, CA-SLO-1620, CA-SLO-1767, and CA-SLO-2133, and CA-SLO-2271—occur in the project area. Prehistoric settlement in the region concentrated along the eastern edge of Nipomo Mesa, located west of US 101. This vantage point provided access to Nipomo Creek and its tributaries—located east of US 101—without being subject to seasonal flooding.

Historic-era settlement also clustered near this edge of Nipomo Mesa. The project area was part of the Nipomo Rancho granted by the Mexican government to William Dana in 1837. In 1881, Dana's heirs gave permission to the Pacific Coast Railroad to cross the property. Within the project area, the Pacific Coast Railroad bed runs between the Mesa's edge and Nipomo Creek. Dana's heirs then subdivided and sold the property. The community of Nipomo rose around the railroad. Near the project area, most development has occurred since the 1950's as part of the settlement shift from urban areas and isolated farms. The earliest existing building in the vicinity of the project area dates to 1952. Nevertheless, much of the area that lies within and adjacent to the proposed project comprises agricultural lands.

8. Agriculture

A variety of agricultural practices have occurred in the project area and surrounding region. Farmers have practiced dry farming both to the west of US 101 on Nipomo Mesa and to the east of US 101 within Nipomo Valley. This farming no longer occurs on Nipomo Mesa, however, because of the poor, sandy soils in this area. Farmers have also irrigated fields for crop production between Nipomo Creek and Thompson Road. Undeveloped areas on Nipomo Mesa and within Nipomo Valley have also been occasionally used for cattle grazing. Two nurseries currently operate in the project area, including the C&M Nursery and Pismo Flowers (formerly Brand Flowers, Inc.), a greenhouse/flower growing operation. C&M Nursery lies adjacent to and immediately east of US 101, while Pismo Flowers, Inc. is located between Hetrick Avenue and Pomeroy Road. Ten agricultural preserves exist within the project area. The County assesses taxes on these preserves at a low rate as long as the land owner and the County agree to maintain the contract establishing the preserve and the existing uses remain agricultural or open space.

The type of agriculture practiced in the region depends on the ability of local soils to support particular land uses. Soils differ considerably between Nipomo Mesa and Nipomo Valley. Sandy Oceano series soils, found on Nipomo Mesa, are primarily used for rangeland, urban development, and limited crops (lemons, avocados, strawberries, and Christmas trees). Cropley Clay and Diablo series soils, located within Nipomo Valley, are "prime" agricultural land when irrigated. Without irrigation, these soils are still suitable for dryland crops such as vegetables and small grains or for rangeland. Tierra series soils lie on a stream terrace adjacent to Nipomo Creek within Nipomo Valley. This soil has been used for rangeland and for growing hay crops and small grains.

9. Visual Aesthetics

The predominance of agricultural uses and open space in the region contribute greatly to the visual setting of the project. Many views include relatively undisturbed areas, native vegetation, and mature trees. The largely undeveloped Temattate ridge to the east provides a scenic backdrop. Automobile headlights from US 101 constitute the primary source of light and glare in the project area followed by the urban commercial development of Nipomo to the south. Light and glare in the project vicinity can be seen as far east as Tematatte Ridge and as far west as Hetrick Road.

10. Geology and Soils

The project area lies within the Coast Ranges Geomorphic Province. Fault-bounded mountain ranges, trending northwest to southeast, characterize this region. Within the project area, the Wilmar Avenue fault reaches the surface near Nipomo Creek and crosses the proposed extension of Willow Road. This fault is a "blind" reverse fault, a type for which the potential for surface rupture is thought to be low. A major earthquake on the fault in this area could, however, cause warping and fracturing of the ground surface. Bedrock occurs at 70 to 80 feet below the ground surface. Groundwater likely occurs at depths of 70 feet or more throughout most of the project area, which substantially reduces the potential for liquefaction. Liquefaction typically occurs only in places where the groundwater exists within 50 feet of the ground surface. The project area lies on a coastal plain, which slopes gradually from east to west. Most of the project area lies within the Nipomo Mesa, an area of thick, sandy dune deposits that form smoothly eroded hills and shallow linear valleys. Oceano series soils, formed from the dune deposits, occur on Nipomo Mesa. Nipomo Creek borders the eastern edge of Nipomo Mesa. Nipomo Creek and its tributaries have deposited alluvium in adjacent areas, and Cropley Clay series soils developed in these deposits. Undifferentiated Diablo and Cibo Clay series soils lie near the southern end of Thompson Road.

11. Drainage, Erosion, and Sedimentation

On the Nipomo Mesa, the topography comprises open flat areas, linear valleys, and hilly knolls, formed in an area of sand dunes. Slopes in this area generally vary between two and ten percent, although slopes may range between ten and 20 percent in some local depressions. No areas of standing water exist on the Mesa near the project area. The only noteworthy water feature on the Nipomo Mesa is the Black Lake Slough. The Mesa does include numerous closed depressions or bowls where water collects without an outlet. Nipomo Creek, a secondary waterway, runs along the eastern edge of the Mesa, passing through the project area. This creek is shallow and broad. It drains a total of 2,103 acres. During a 100-year flood event, the creek channel would be two to three feet deep and its width would span from 280 and 560 feet.

Because different types of soils exist on Nipomo Mesa and in Nipomo Valley, these areas have different levels of susceptibility to erosion. The sandy soils of Nipomo Mesa may erode easily when vegetation is removed or where surface flows are concentrated, forming gullies during winter storms. Winds can also erode these soils, especially when their vegetation is disturbed. Soils within Nipomo Valley do not erode as readily, although winds can affect the Tierra Sandy Loam series soil that borders the northern side of Nipomo Creek.

12. Water Quality

Within the project area, surface runoff either drains towards Nipomo Creek or into closed depressions. Water collected in the closed depressions percolates quickly into the soil and groundwater basin below. The creek discharges to the Santa Maria River about four miles downstream. Levels of total and fecal coliform, nitrate, total dissolved solids, chloride, sodium, and sulfate exceed applicable criteria at sampling stations located a short distance downstream from the project site.

The project site lies within the Santa Maria River Valley Groundwater Basin, at the border of the Lower Nipomo Mesa Hydrologic Sub-Area (HSA) and the Nipomo Valley Subbasin. Groundwater is unconfined in most of the basin except in the coastal areas. Local areas of shallow perched groundwater occur within the project area, particularly near Nipomo Creek. Groundwater in most of the project area, however, probably occurs at 135 feet below the ground surface. The Santa Maria Valley Groundwater Basin, including the Nipomo Mesa, has a history of high nitrate and total dissolved solids concentrations, particularly in the vicinity of the Cities of Santa Maria and Guadalupe. Such pollution likely derives from nonpoint sources generated by agriculture and urban activities.

13. Hazardous Materials

Some of the land uses within the proposed project area have the potential to generate or use hazardous materials. Pesticides may have been used on agricultural fields near the project, and these pesticides may be present on surface soils. Most agricultural lands lie to the east of US 101. West of US 101, the land use has been classified as Residential Rural, but most of these lands occupy areas that are currently cultivated or have been cultivated in the past. Farmers may have used pesticides in these areas. Nurseries located close to the project area may have also used pesticides.

Hazardous materials in the project area may also derive from other sources. San Luis Obispo is among the counties listed as containing serpentine and ultramafic rock. The General Location Guide for Ultramafic Rocks in California shows no areas of natural occurring asbestos (NOA) in the project vicinity. However, in the unforeseen event of the discovery of ultramafic or asbestos containing materials, there are county requirements that must be followed to reduce or eliminate the NOA impact. An underground natural gas pipeline, owned by Pacific Gas & Electric, lies along the western boundary of US 101. Two Unocal pipelines exist east of US 101 and west of Thompson Avenue. Potentially hazardous materials, including small oil tanks and other unidentified tanks, occur on private property located west of US 101 and south of the proposed interchange. None of these potential sources of hazardous materials is known to be leaking such materials currently.

14. Socioeconomics

The community of Nipomo contained a population of 15,391 people in 2000. Since 1980, population in the community increased at a much higher annual rate of growth than the County as a whole. The median house price in Nipomo during 2000 was $234,600 which was lower than the median house price for the County. Nipomo contains a variety of small and medium sized businesses, which cater primarily to local customers. The majority of these businesses lie adjacent to the main thoroughfares Tefft Street, US 101, Orchard Road, and Old Towne.

IV.B. CUMULATIVE PROJECTS

The CEQA Guidelines, Section 15355, defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts". These individual effects may derive from a single project, or they may result from the implementation of a number of distinct projects. Cumulative impacts resulting from separate projects are the sum of the individual environmental changes caused by the implementation of past, present, and likely future projects. The impact of any individual project may be modest, but the sum of the impacts from multiple projects, implemented over a period of time, may be significant.

Chapter V provides an analysis of cumulative impacts for each issue discussed in that chapter. The analyses consider the combined impacts of 24 private projects and two other public projects in the region around the proposed project (Table IV-1). These projects derive from a list of pending and recently approved projects provided by County staff. Most of the cumulative projects occur on Nipomo Mesa to the west of the proposed project (Figure IV-1) in the area serviced by this project. Many of the projects on the cumulative projects list propose new subdivisions of existing lots, increasing the total number of lots in the area. These projects also include plans for three golf courses, two green houses, a resort hotel, a lodge, a Mini Storage facility, and other commercial uses. Some of the projects entail the conversion of agricultural land or rural residential land to other uses. As noted in Chapters III and IX, the proposed project facilitates and accommodates the increased population and traffic created by the cumulative projects.

Table IV-1: Cumulative Projects

Type	Project Name	Description	Location	Current Status
Private	Cypress Ridge Tract Map & Development Plan	18 hole golf course, 386 homes	At Halcyon Road & El Campo in Mesa Village area	Approved
Private	Black Lake Specific Plan Amendment & Tract Map	Increase existing Specific Plan densities by 44 units	Willow Road and Pomeroy	Approved
Private	Meier/Herreck Tract Map	Resubdivide 113 lots into 183 lots (70 lot increase)	Old Nipomo, Thompson Rd. & Chestnut	Approved
Private	Teter Tract Map	Resubdivision from 3 to 4 lots (one lot increase)	Pomeroy & Live Oak	Approved
Private	Greenhart Farms Development Plan	415,000 sq.ft. greenhouse	Zenon Rd., south of Cheasepeake	Approved
Private	Murphy Tract Map	6-lot subdivision	Division St. & Tyrus Ct.	Approved
Private	Katzenstein Parcel Map	4-lot subdivision	Zenon Rd. & Black Lake Canyon	Approved
Private	Armstrong Tract Map	27-lot subdivision	Orchard and Grande	
Private	Sheilds & Shields Tract Map	41-lot subdivision	Hwy 101 & Hwy 166	Approved
Private	Lampe Tract	7-lot subdivision	S. Oak Glen	
Private	Busick Tract Map	18-lot subdivision	El Campo Rd. & Hwy 101	To P/C in Aug/04
Private	Sejera/Thompson Tract	13-lot subdivision	Thompson & Hwy 101	Approved

Type	Project Name	Description	Location	Current Status
	Map			
Private	Belsher & Becker Tract Map	4-lot subdivision	Pomeroy near Willow	Approved
Private	Ball Seed Development Plan	208,000 sq.ft. greenhouse	Zenon & Cheasapeake	
Private	The Woodlands Specific Plan	1,320 dwelling units, 31 acres commercial/business park, 18 acre (500 unit) resort hotel, and two golf courses (45 holes)	East of Hwy 1, one mile south of Willow Road	Approved; 1st tract/golf course approved and under construction
Public	North Mesa Assessment District	Improve various roads on north side of Black Lake Canyon	Portions of El Campo, Zenon, Stanton	Approved
Public	Widen portion of Halcyon Road	Widen portion of Halcyon Road		Approved
Private	Nipomo Oaks/Melschau	Change 40 acres designated agriculture land to commercial retail (175,000 sq.ft.)	Willow & Hetrick	Pending
Private	Brand	Change 32 acres residential rural land to residential suburban and 40 acres rural lands to commercial service	S. Frontage Road & Southland	Pending
Private	Craig/Lucia Mar School District	Change 40 acres residential rural land to 16 acres recreation and 24 acres of public utilities (school and ancillary uses)	Willow & Via Concha	Pending
Private	Cypress Ridge	Change 18 acres of residential suburban land to recreation, including a 102 room lodge and clubhouse expansion	El Campo & Halycon	Approved
Private	SLO County-Summit Station and Robertson et. al.	Amend the land use ordinance to remove two standards that apply to Summit Station. Increase development potential of 46 primary and 184 secondary dwellings	Pomeroy/Frontage Rd/Los Berros	Approved
Private	Anderson	Change 38 acres agricultural land to residential rural	NE corner Guadelupe & Willow	Approved
Private	Vellagio	20 Lots, Tract 2381	Near Willow Road and Pomeroy Road	Approved
Private	Robinson Weaver	Mini Storage with offices, approximately 2.5 acres	Northwest of the corner of Sandydale Drive and N. Frontage Road, just west of Hwy 101	Approved
Private	Biorn LUO Amendment	Change up to 50 acres from CS/RS to IND	Immediately west of Hwys 166/101 interchange	Pending

ID	Type	Name	Location
1	Private	Cypress Ridge Tract Map & Development Plan	Halcyon Road & El Campo Road
2	Private	Black Lake Specific Plan Amendment & Tract Map	Willow Road & Pomeroy Road
3	Private	Meier/Herreck Tract Map	Old Nipomo Road, Thompson Road & Chestnut Road
4	Private	Teter Tract Map	Pomeroy Road & Live Oak Ridge Road
5	Private	Greenhart Farms Development Plan	Zenon Road, south of Cheasepeake Place
6	Private	Murphy Tract Map	Division Street & Tyrus Court
7	Private	Katzenstein Parcel Map	Zenon Road & Black Lake Canyon
8	Private	Armstrong Tract Map	Orchard Road & Grande Street
9	Private	Sheilds & Shields Tract Map	US 101 & Hwy 166
10	Private	Lampe Tract	South Oakglen Avenue
11	Private	Busick Tract Map	El Campo Road & US 101
12	Private	Sejera/Thompson Tract Map	Thompson Avenue & US 101
13	Private	Belsher & Becker Tract Map	Pomeroy Road near Willow Road
14	Private	Ball Seed Development Plan	Zenon Road & Cheasapeake Place
15	Private	The Woodlands Specific Plan	East of SR 1, one mile south of Willow Road
16	Public	No. Mesa Assessment District	Portions of El Campo Road, Zenon Road, & Stanton Road
17	Public	Widen portion of Halcyon Road	Halcyon Road
18	Private	Nipomo Oaks/Melschau	Willow Road & Hetrick Avenue
19	Private	Brand	South Frontage Road & Southland Avenue
20	Private	Craig/Lucia Mar School District	Willow Road & Via Concha
21	Private	Cypress Ridge	El Campo Road & Halycon Road
22	Private	SLO County-Summit Station & Robertson et. al.	Pomeroy Road/Frontage Road/Los Berros Road
23	Private	Anderson	Northeast corner of Guadelupe Road & Willow Road
24	Private	Vellagio	Near Willow Road & Pomeroy Road
25	Private	Robinson Weaver	Northwest of the corner of Sandydale Drive and N. Frontage Road, just west of US 101
26	Private	Biorn LUO Amendment	Immediately west of the Highway 166/US 101 interchange

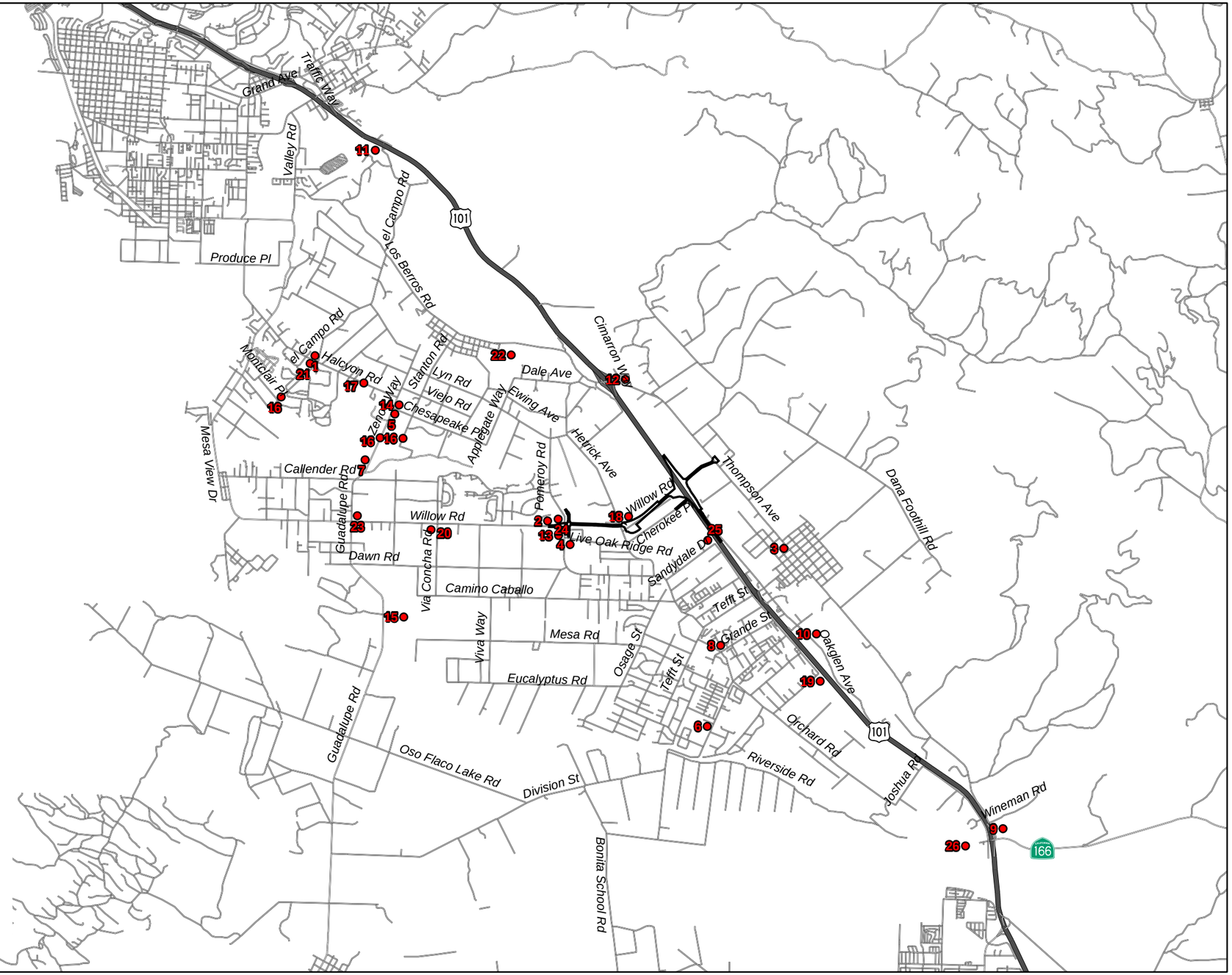

FIGURE IV-1

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Miles

SOURCE: Census 2000 Tiger/Line Data, County of San Luis Obispo Planning and Building Department.

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Willow Road Extension/U.S. 101 Interchange Project

Cumulative Projects

V.A. LAND USE AND PLANNING

This section summarizes the findings presented in Chapter V.A of the *Willow Road/Highway 101 Interchange Final Environmental Impact Report*, prepared by Douglas Wood & Associates, Inc. (March 1999: pp. V3-V14). Per the CEQA Guidelines, section 15150, this EIR incorporates the previous study by reference. However, this section includes the County's updated Thresholds of Significance and provides other updated land use information as applicable. The 1999 Final Environmental Impact Report (FEIR) is on file and available for public review at the County of San Luis Obispo Planning and Building Department.

1. Existing Conditions

Land Use. The project area currently contains a variety of land uses including low density residential, nurseries, recreation, agricultural farmlands, and open space. The Land Use Element of the San Luis Obispo County General Plan, South County Area Plan (Inland), identifies the project area as containing three land use designations (Figure V.A-1). Detailed planning area standards are provided for each designated land use as provided for in Article 9 (South County) of the County's land use ordinance.

All the land east of US 101 and the land east of Hetrick Road and north of Willow Road have been designated Agricultural (AG). This area contains the C&M nursery, scattered homesites on large parcels, open grasslands, and pasture lands used for cattle grazing. In regard to the agricultural land, the South County Area Plan states "agricultural practices of varying degrees of intensity involve over two-thirds of the planning area. Any appreciable loss in viable farm acreage should be avoided." The South County Area Plan goes on to state that " commitments to agriculture have been made…These commitments should be bolstered by retaining the agriculture category next to the Nipomo urban area east of Highway 101…Prime soils in the valley lands should be protected exclusively for agriculture."

Black Lake Village lies immediately west of Pomeroy Road and north of Willow Road. This area has been designated Recreation (REC) and supports a 27 hole golf course, and a larger residential community on approximately 515 acres.

The remainder of land has been designated Residential Rural (RR) which provides for estate-sized lots or smaller farms of five acres or larger. Most of this area contains homes on relatively smaller lots with rural access roads. According to the South County Area Plan, "the rural residential density on the mesa recognizes that services are not generally available for higher densities and are not planned." The South County Area plan also states that "residential uses should be considered only in support of employment development" and the Residential Rural designation "recognizes both the potential for continued agricultural uses as well as potential development of large-lot rural homesites."

Circulation. The Circulation Element of the San Luis Obispo County General Plan provides guidance for traffic and circulation planning within and around the project area. Specific roadway improvements included as part of this project that are listed in the Circulation Element include:

- Principal Arterials – a provision of future interchanges on US 101 at both Willow Road and Southland Street with an extension of Willow Road to that interchange.

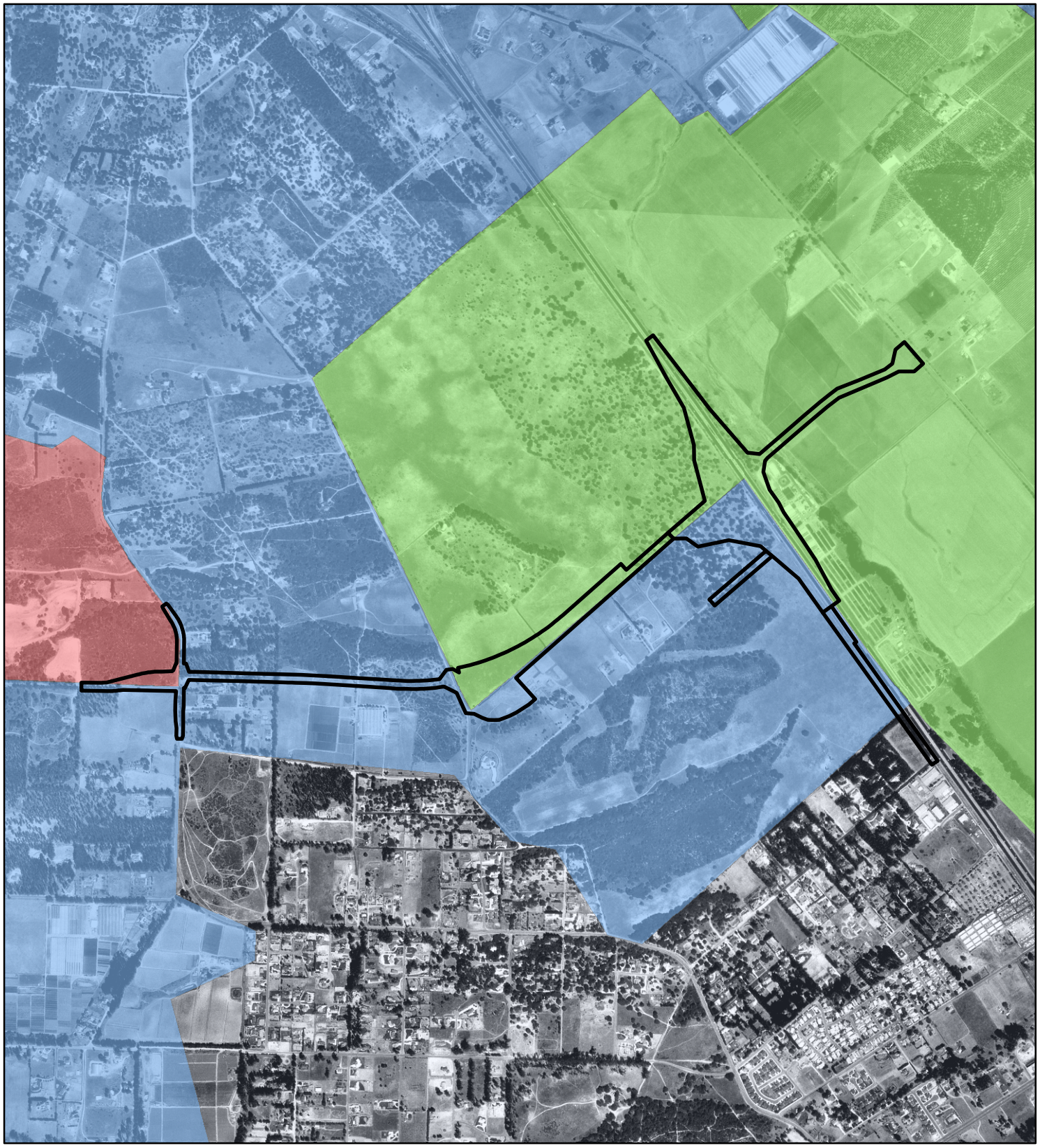

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FIGURE V.A-1

Willow Road Extension/U.S. 101 Interchange Project

Land Use Designations

SOURCE: DOQQ (1m), Geometrics-Rajappan & Meyer Consulting Engineers Inc.

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- Arterials – an easterly extension of Willow Road from Pomeroy Road to intersect US 101 at a proposed interchange and then east to Thompson Avenue with rural arterial standards, including a Class II (on-street, separate lane) bicycle lane.

- Collectors – extend the existing North Frontage Road from Sandydale Drive to the proposed Willow Road interchange.

Proposed Public Facilities. The South County Area Plan designates an area at the northwest corner of Pomeroy and Willow roads as Proposed Government Facilities (GF) (Map 2, South County Area Plan, revised 5-2-02). Possible uses for this area include: a Sheriff's substation, government offices and courts, a branch library, a multi-purpose room for citizen activities, interview and office space for health services, and kitchen facilities.

2. Thresholds of Significance

Appendix G of the State CEQA Guidelines and the County's Initial Study Checklist require a determination of whether the proposed project would have the following impacts related to land use and planning[1]:

- Be potentially inconsistent with land use, policy/ regulation (e.g., general plan [County land use element and ordinance], local coastal plan, specific plan, Clean Air Plan, etc.), adopted to avoid or mitigate for environmental effects;
- Be potentially inconsistent with any habitat or community conservation plan;
- Be potentially inconsistent with adopted agency environmental plans or policies with jurisdiction over the project; and
- Be potentially incompatible with surrounding land uses.

3. Project Impacts

Land Use. The following discussion describes potential impacts from the proposed project upon a variety of land uses including low density residential, nurseries, recreation, agricultural farmlands and open space. Impacts are discussed in terms of land uses in the proposed western, middle and eastern road segments, as well as along the proposed frontage road.

Western Segment. The western segment includes the proposed Willow Road extension between Pomeroy Road and Hetrick Avenue. The majority of this segment runs along existing dirt or paved roads with a small section running through a fallow field. The proposed road would pass approximately 120 feet to the north of existing residences currently served by the existing road (paved and unpaved). Some property acquisition, however, will be required to complete the road extension. Long-term access to residential land uses in the area will be improved through the addition of a paved, all-weather roadway.

[1] Although this section is incorporated by reference from the 1999 FEIR, the Thresholds of Significance have been updated to include criteria as stated in the County's current Initial Study Checklist.

Middle and Eastern Segments. Between Hetrick Road and US 101 the alignment follows an existing paved roadway. Construction of this segment and long-term use will not impact any residences or other land uses. East of US 101, the proposed project will run along an existing fenceline that defines the northern property boundary of the C&M nursery. Although it will be necessary to acquire some of the nursery property near US 101, the nursery manager has stated that the project will not impact ongoing nursery operations because this acquisition will not impact any greenhouses.

The proposed road extension east of US 101 would potentially disturb riparian habitat and jurisdictional waters of the U.S. associated with Nipomo Creek. Construction activities could cause indirect impacts to the creek habitat from dust, fuel spills and activities of personnel and equipment outside the designated construction areas. Refer to section V.F, Biological Resources for a more detailed discussion of potential impacts to the creek resources. These impacts can be reduced to a less than significant level with implementation of prescribed mitigation measures in section V.F.

East of Nipomo Creek, the project runs through large, contiguous agricultural parcels. Implementation of the proposed project may impede agricultural operations, a potentially significant impact to agricultural resources. As addressed in Section V.H. of this chapter the proposed road extension would result in significant unavoidable adverse impacts to two agricultural preserves. The proposed project's contribution to cumulative impacts on agricultural resources could also be significant, unavoidable and adverse. The proposed project would also affect areas containing prime agricultural soils (when irrigated), and areas under a variety of agricultural uses including nurseries and greenhouse operations. However, implementation of safe, at-grade agricultural vehicle access to areas under cultivation on both sides of the roadway (Mitigation Measure H-1) and provision of a new cattle undercrossing if the existing one is still in use (Mitigation Measure H-3) will reduce these potential impacts to agricultural resources to less than significant levels. These Willow Road segments will not cause the use of land in this area to change from agricultural uses. Refer to Section V.H for further discussion of impacts to agricultural resources.

Frontage Road. The proposed frontage road runs on the western side of and parallel to US 101 between Willow Road and Sandydale Drive. Although partial property acquisitions will be required, construction of this segment and long-term use will not impact any residences or other land uses.

Construction of all of the proposed project road segments will be consistent with County land use plans, Clean Air Plan, any habitat plan, and/or community conservation plan. (Please refer to Sections V.B through V.N as well as this Section for a more complete discussion regarding the consistency of this project with all County resource plans.) Therefore, the proposed project will not have a significant impact related to land use and planning.

Long Range Planning and Circulation Policies. The proposed project is consistent with long-range land use and circulation planning for the project area as included in the Land Use and Circulation Elements of the San Luis Obispo County General Plan. The Willow Road extension, US 101 interchange, and frontage road are included as specific roadway improvements within the Circulation Element. The proposed project will not significantly impact the County of San Luis Obispo's ability

to provide any of the potential future public facilities at the corner of Pomeroy and Willow roads. Instead, the addition of a new road will likely enhance the viability of this future use through provisions of enhanced circulation access.

4. Cumulative Impacts

As was discussed above in the project impacts section, development of the proposed project will not conflict with any land use plan policy or regulation adopted to avoid or mitigate environmental effects and will not conflict with any habitat or community conservation plan. The proposed Willow Road Extension and US 101 interchange project will result in regional cumulative land use impacts. Cumulative land use impacts associated with the proposed project facilities will result from growth-inducing impacts typically associated with improved roadway and access facilities. Provision of such facilities eliminates a potential constraint (e.g., lack of access) upon development in areas served by or adjacent to these roadways, particularly in vacant or sparsely populated areas as is the case with the project area. Provision of roadways and access facilities can increase land values and create economic pressure to develop. These growth-inducing impacts on existing land use designations represent potentially significant land use impacts. For example, the Melschau property located adjacent to and north of the proposed Willow Road extension west of US 101 is the subject of a General Plan Amendment and Development Plan application for a variety of proposed residential and commercial land uses on more than 200 acres. Additional development density is also being considered for the rest of the 160 acres. The proposed project may represent a contributing step in the long-range development of the Melschau property and of the other projects listed in Section IVB of this SEIR. Cumulatively, development of these projects would impact the rural, open space land use pattern and character of the project area. Construction of these projects could also continue to accelerate the trend of the urban development elsewhere in the Nipomo Mesa area.

5. Mitigation Measures

Implementation of Mitigation Measure, H-1 will reduce potentially significant impacts to agricultural production in the project area (see Agricultural Resources Section, Section V.H). This mitigation measure requires safe, at-grade vehicle crossings where the proposed project traverses lands under cultivation.

6. Residual Impacts

The proposed extension of Willow Road and interchange at US 101 generally conform to and do not significantly impact ongoing circulation or land use planning efforts for the project area. The proposed project, however, may indirectly accelerate the future development of other planned projects. Because the Willow Road and interchange at US 101 facilitates future planned development, it would indirectly impact the rural, open space land use pattern and character of the project area. Because it is likely to accelerate future development in the immediate vicinity, it would, therefore, also indirectly cause significant impacts to environmental resources such as water resources, biological resources, cultural resources, agricultural resources, and traffic and circulation from the combined effects of the future development projects.

V.B. TRAFFIC AND CIRCULATION

This section summarizes the findings presented in two documents. It includes information from both the *Final Traffic Operations Report, US 101/Willow Road Interchange Project*, prepared by Fehr and Peers Associates, Inc. (December, 2004), which is included within Volume II of this document, and from Chapter V.B of the *Willow Road/Highway 101 Interchange Final Environmental Impact Report*, prepared by Douglas Wood & Associates, Inc. (March 1999: pp. V15-V40).

1. Existing Conditions

The project area lies within the rural area near the community of Nipomo, San Luis Obispo County. The traffic modeling centers on US 101. The Tefft Street interchange defines the southern boundary, and the Los Berros/Thompson Road interchange defines the boundary to the north.

Roads. Figure V.B-1 depicts the road network in the project area. The road network, as defined by the Circulation Element of the South County Area Plan, contains principal arterials, arterials, collectors, and local streets. These road types form a functional hierarchy. Principal arterials carry traffic between population centers. Arterial roads carry traffic between population centers and within a busy urban area. Collector roads typically provide transition roadways between arterial roads and local streets. Local streets are intended as low volume roadways usually found at the end of the roadway system. The following sections describe the arterials and important local streets within the project area.

US 101. US 101 provides regional access to the project area. This highway links the project area with Santa Barbara and Los Angeles to the south and with San Luis Obispo, Monterey, and San Francisco to the north. Most of the traffic on US 101 passes through the project area, originating and terminating in other regions. US 101 serves as an important route for traffic between the "Five Cities" area and San Luis Obispo to the north and Santa Maria to the south. Existing US 101 freeway interchanges are located at Tefft Street, Los Berros/Thompson Road, and State Route 166 (SR-166). These interchanges provide access to the local roadway system for the Nipomo Mesa South County Planning Area.

Los Berros Road. Los Berros Road is a two-lane arterial road connecting US 101 to Valley Road in Arroyo Grande. This road provides access to US 101 for eastbound traffic at the Los Berros/Thompson Interchange. Residences occur along this road. East of US 101, this road becomes Thompson Road.

Thompson Road. Thompson Road is a two-lane arterial road that provides access to US 101 at the Los Berros/Thompson interchange. East of the interchange, this road runs south and parallels US 101, intersects with Tefft Street and eastern Nipomo, and eventually terminates at SR-166. Farms, a high school, residences, and commercial development line this road.

Tefft Street. Within the vicinity of the project area, Tefft Street is an arterial road. This four-lane road runs east-west. An interchange along this street provides northbound and southbound access to US 101. These ramp intersections are signalized. Due to the alignment of South Frontage Road, the southbound off-ramp intersection at Tefft Street occurs to the west of the southbound intersection on-ramp, resulting in two closely spaced intersections. Tefft Street primarily serves the Nipomo urban area.

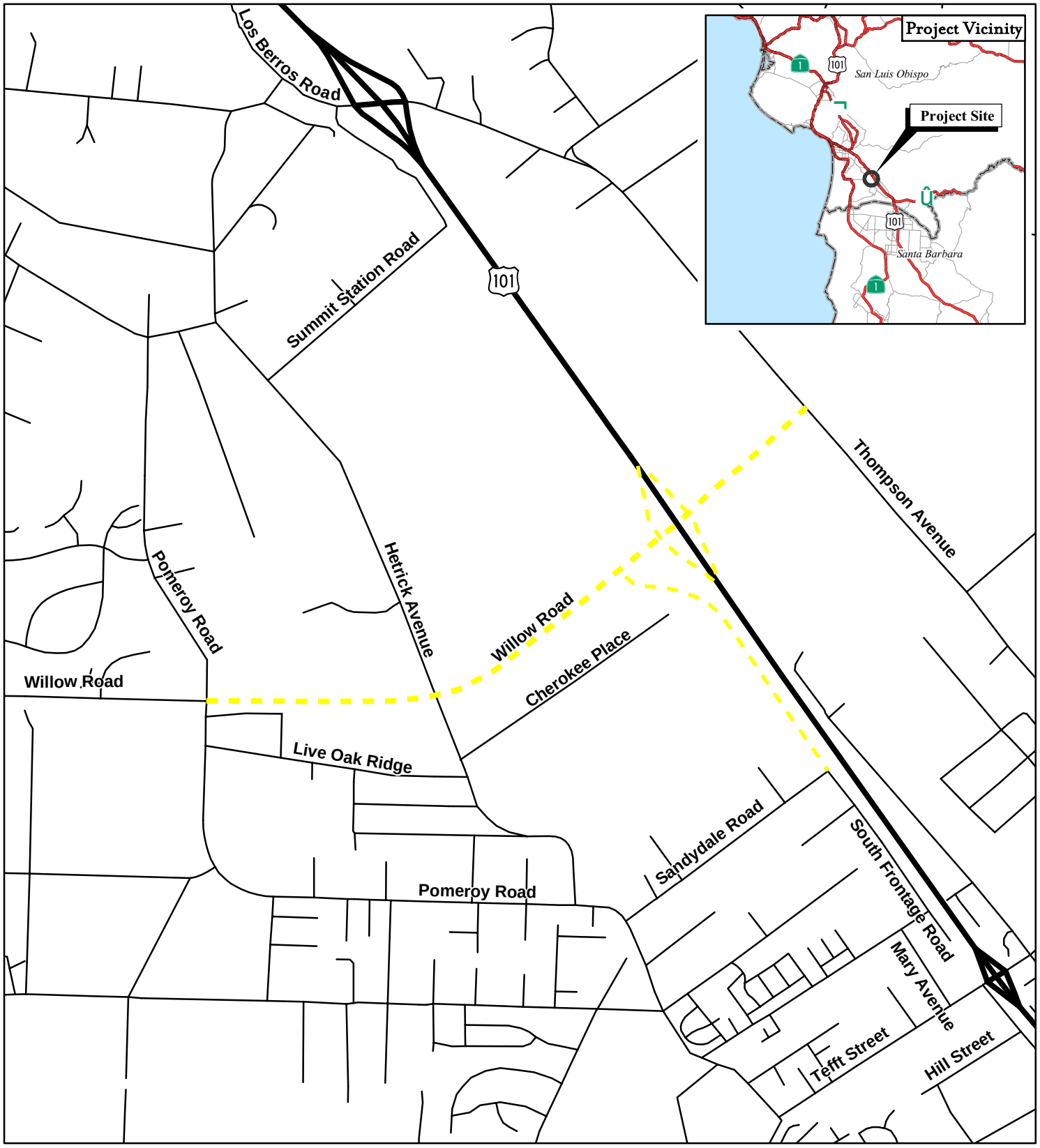

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FIGURE V.B-1

Willow Road Extension/U.S. 101 Interchange Project
Regional Access

SOURCE: Tiger (ESRI 2001)

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Pomeroy Road. Pomeroy Road is a two-lane road that runs roughly north-south, connecting Los Berros Road to Tefft Road. This road is a key route for traffic moving from the interior of Nipomo Mesa to US 101. North of its intersection with Willow Road, this road is a collector road, bringing traffic to and from Willow Road. South of its intersection with Willow Road, the road becomes an arterial road and runs through mostly suburban and urban residential areas in the community of Nipomo.

Willow Road. Willow Road is a two-lane arterial road that occurs in several discontinuous segments. One segment of this road runs east-west, terminating at Pomeroy Road. This segment of the road connects to SR-1 and passes the Black Lake Village area, limited agricultural areas, and scattered residential areas. Another segment runs roughly 1,200 feet due west from Hetrick Avenue. This second segment provides access to scattered residences, a nursery, and vacant lots. A third segment runs roughly west-east from Hetrick Avenue toward US 101 and is essentially private because a locked gate currently restricts access. East of the gate, the road provides access to several farms and residences.

Hetrick Avenue. Hetrick Avenue is a two-lane local road that runs roughly parallel to Pomeroy Road and US 101. This road begins at Los Berros Road and eventually terminates at Pomeroy Road. The easternmost existing segment of Willow Road intersects with Hetrick Avenue. Residences occur along this road. Sections of this road are not paved and seasonally impassable.

Safety. Caltrans provided Traffic Accident Surveillance and Analysis System (TASAS) data for a three-year period for US 101 between Los Berros Road and Tefft Street at or near the ramp junctions of these two existing interchanges (from January 2000 through December 2002). The data indicated that a total of 66 accidents occurred on the US 101 mainline and 32 accidents occurred in the vicinity of a ramp junction. The actual and expected average accident rates are presented in Table V.B-1 below. It should be noted that a fatal collision occurred in January 2004 on the US 101 southbound off-ramp to Tefft Street. This accident, which involved an intoxicated driver, was not included in the data set from Caltrans, but is acknowledged here for informational purposes.

The data in Table V.B-1 show no fatalities at the ramps, and the mainline rate of fatal accidents is lower than the Statewide average. With the exception of the northbound off-ramp to Los Berros Road, all of the fatal plus injury accident rates are lower than the Statewide average. However, the northbound Los Berros Road off-ramp fatal plus injury rate is approximately three times the Statewide average. In addition, at five of the seven ramp locations (three of which are at the Tefft Street interchange); the total rate of accidents is higher than the Statewide average. Speeding and other traffic violations constitute the most common factors contributing to the reported accidents, and rear-end accidents were the most frequent type of collision.

Methods to Determine Traffic Operations. Characterization of traffic conditions within the project area focused on a few key locations. Operations at freeway ramp junctions often determine the performance of adjacent freeway segments. Similarly, the operation of roadway intersections determines how smoothly traffic flows through them. To evaluate the current performance of freeway ramp junctions and intersections within the project area, their Level of Service (LOS) was determined.

Table V.B-1: Accident Rate Calculation

Location	Accidents per Million Vehicle Miles for Jan. 2000-Dec. 2002					
	Actual			Statewide Average		
	Fatalities	Fatalities Plus Injuries	All Report Accidents	Fatalities	Fatalities Plus Injuries	All Reported Accidents
US 101 Mainline	0.011	0.12	0.35	0.013	0.26	0.65
Tefft SB on-ramp	0.00	0.00	0.65	0.002	0.32	0.80
Tefft NB on-ramp	0.00	0.00	**2.11**	0.005	0.61	1.50
Tefft SB off-ramp	0.00	0.25	**1.27**	0.002	0.32	0.80
Tefft NB off-ramp	0.00	0.46	**2.28**	0.005	0.61	1.50
Los Berros NB off-ramp	0.00	**1.30**	**1.74**	0.014	0.43	1.15
Los Berros SB off-ramp	0.00	0.00	0.00	0.007	0.21	0.55
Los NB on-ramp	0.00	0.00	**0.61**	0.007	0.21	0.55

Bold numbers represent actual accident rates greater than the Statewide average.
Source: TASAS data provided by Caltrans District 5 (Table B, November 6, 2003) in Final Traffic Operations Report, Fehr & Peers, December 2004.

LOS represents a qualitative assessment of the quantitative effects of such factors as traffic volume, roadway geometrics, speed, delay, and maneuverability on roadway and intersection operations. LOS varies from levels A through F, where LOS A represents the best driving conditions and LOS F represents the worst conditions. At LOS A, for example, traffic flows freely through intersections. Traffic volumes approach the maximum capacity of the road at LOS E. Under such circumstances, relatively small incidents (e.g., momentary engine stall) can cause considerable fluctuations in speeds and delays. At LOS F, capacity has been exceeded, resulting in long delays.

Determination of LOS at ramp junctures, signalized intersections, and unsignalized intersections followed guidelines presented in the *Highway Capacity Manual* (Transportation Research Board 2000). At ramp junctures, LOS deteriorates as the maximum density of passenger cars per mile per lane increases. The length of delay experienced by vehicles at unsignalized and signalized intersections, calculated in seconds per vehicle, determines LOS at such intersections. LOS deteriorates as the length of delays increase.

Measurement of existing LOS occurred at the following freeway ramps.

- Southbound US 101 Off-ramp at Los Berros Road
- Southbound US 101 On-ramp from Los Berros Road
- Southbound US 101 Off-ramp at Tefft Street
- Southbound US 101 On-ramp from Tefft Street
- Northbound US 101 Off-ramp at Tefft Street
- Northbound US 101 On-ramp from Tefft Street
- Northbound US 101 Off-ramp at Los Berros Road
- Northbound US 101 On-ramp from Los Berros Road

Analysis of LOS also occurred at the following road intersections. These intersections include freeway ramp-road intersections, so the LOS of traffic passing past these ramps can be evaluated.

- Southbound US 101 Ramps/Los Berros Road (Unsignalized, Side Street Stop-Controlled)
- Northbound US 101 Ramps/Los Berros Road (Unsignalized, Side Street Stop-Controlled)
- Willow Road/Pomeroy Road (Unsignalized, Side Street Stop-Controlled)
- Willow Road/Hetrick Avenue (Unsignalized, Side Street Stop-Controlled)
- Southbound US 101 Ramps/Tefft Street (Signalized)
- Northbound US 101 Ramps/Tefft Street (Signalized)

Measurement of LOS at the abovementioned freeway ramps provides a basis for evaluating the impact of the proposed project on freeway traffic. The proposed project will also change the intersection of Willow Road with Pomeroy Road and Hetrick Avenue, so measurement of LOS at these intersections allows the effects of the proposed project on local street traffic to be evaluated. The proposed project will also create a new intersection at Willow Road and Thompson Avenue. LOS at this intersection is only analyzed under future conditions, as discussed in the following section.

Table V.B-2 depicts LOS for AM and PM peak hours at the existing ramps and intersections. As this table shows, only the southbound US 101 ramp/Tefft Street intersection exhibits an unacceptable LOS under existing conditions. The poor performance of this intersection derives from its unusual configuration. The southbound off-ramp lies across from S. Frontage Road, rather than across from the southbound on-ramp as is typical. The southbound on-ramp lies farther to the east. The conjunction of these five routes (eastbound Tefft Street, westbound Tefft Street, southbound US 101 on-ramp, southbound US 101 off-ramp, S. Frontage Road) requires complex signal timings that reduce the efficiency of traffic movement at the intersection.

Table V.B-2: Peak Hour LOS for Existing Project Area Ramp Junctures and Intersections

Ramp Juncture or Intersection	Existing (AM/PM)
Study Area Ramp Junctures	
SB Off-ramp at Los Berros Rd	C/D
SB On-ramp from Los Berros Rd	C/D
NB Off-ramp at Los Berros Rd	C/C
NB On-ramp from Los Berros Rd	C/C
SB Off-ramp at Tefft St	C/D
SB On-ramp from Tefft St	C/D
NB Off-ramp from Tefft St	C/C
NB On-ramp from Tefft St	C/C
Study Area Intersections	
SB US 101 Ramps/Los Berros Rd	B/C
NB US 101 Ramps/Los Berros Rd	C/C
SB US 101 Ramps/Tefft St	**E/E**
NB US 101 Ramps/Tefft St	C/C
Willow Rd/Pomeroy Rd	A/B
Willow Rd/Hetrick Ave	A/A

Note: LOS shown in **Bold** denotes unacceptable service.

2. Thresholds of Significance

Significance criteria for evaluating project impacts on traffic conditions derive from the CEQA Guidelines Appendix G and the County of San Luis Obispo Initial Study Checklist. The project would have a significant impact if any of the following conditions occur.

- The project causes traffic conditions to exceed, either individually or cumulatively, level of service D[1];
- The project causes an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system;
- The project increases vehicle trips to the local or area-wide circulation system;
- The project results in inadequate emergency access;
- The project substantially increases hazards due to a design feature or incompatible uses;
- The project conflicts with adopted policies, plan, or programs supporting alternative transportation;
- The project results in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;

[1] San Luis Obispo County and Caltrans have both established LOS C as a Countywide target on all County- and State-maintained roads and highways. However, LOS D is accepted in more developed and congested areas, which will include Nipomo by 2030.

3. Project Impacts

Future Conditions. Over time, traffic volumes throughout the project area will increase as a result of local and regional growth. The County has forecasted traffic volumes to the year 2030, assuming that the proposed project will be constructed. Much of the increased traffic within the study area is largely the result of anticipated growth on the west side of the freeway such as the Woodlands development. Some growth and additional traffic is also anticipated east of US 101 in Olde Towne Nipomo.

LOS for Future No Project and Future Plus Project Conditions. Table V.B-3 shows both the future (year 2030) average delay and LOS, assuming that the project is not built and the future average delay and LOS, assuming that the project is built. Comparison of these two scenarios allows the impacts of the project on traffic conditions to be evaluated. The comparison reveals that the proposed project has a beneficial effect on LOS at three study area intersections. In almost all instances where the LOS does not change, delay is reduced resulting in improved operations at each of the study intersections.

If the project is not constructed, increases in traffic will lead to unacceptable delays and deteriorations in LOS at several ramp junctures and intersections by 2030. During both the AM and PM peak hours, unacceptable LOS will be experienced at the northbound Los Berros Road/US 101 northbound ramps and the Tefft Street/ US 101 southbound ramps. During the peak PM hours, unacceptable LOS will also be experienced at the Tefft Street/US 101 northbound ramps and the Los Berros Road/US 101 southbound ramps. The traffic analysis also indicates the potential for traffic at both the southbound and northbound US 101 off ramps/Tefft Street to back up onto the freeway by 2030.

Construction of the project provides relief from congestion at several study area intersections and significantly reduces the average vehicle delay resulting in improved intersection and ramp operations. The LOS is forecast to improve to acceptable levels at the Los Berros/US 101 Southbound ramps and the Tefft Street/ US 101 Northbound ramps during PM peak hours. The proposed project will also improve LOS F to LOS E at the Los Berros Road/ US 101 Northbound ramps during peak AM hours, although operations will still be an unacceptable LOS E at this location. The operation of this intersection can be improved to an acceptable LOS with the implementation of Mitigation Measure B1, prescribed below in Section 5.

Table V.B-3: Average Delay/LOS for Future No Project Condition and for Future with Project Condition

Intersection	Average Delay[1] / LOS			
	2030 No Project		Future With Project	
	AM	PM	AM	PM
Los Berros Road / US 101 SB Ramps	20.8/C	**76.9/F**	15.2/C	31.1/D
Los Berros Road / US 101 NB Ramps	**384.5/F**	**433.7/F**	**36.3/E**	**92.3/F**
Willow Road / Pomeroy Road	16.6/C	20.6/C	16.0/C	26.0/D
Willow Road / Hetrick Avenue	9.4/A	0.1/A	12.6/B	16.3/C
Willow Road / N. Frontage Road	N/A	N/A	12.3/B	16.3/C
Willow Road / US 101 SB Ramps	N/A	N/A	16.8/C	18.9/C
Willow Road / US 101 NB Ramps	N/A	N/A	11.5/B	9.5/A
Willow Road / Thompson Avenue	N/A	N/A	8.8/A	9.7/A
Tefft Street / US 101 SB Ramps / S. Frontage Road	**102.5/F**	**151.5/F**	**81.2/F**	**93.3/F**
Tefft Street / US 101 NB Ramps	39.4/D	**61.2/E**	28.5/C	35.8/D

Source: Fehr & Peers Associates, Inc., December 2004

Notes: 1. Delays in excess of 120 seconds are presented for comparison purposes only. Delays above this threshold are not considered accurate since the calculation is unreliable with excessive congestion.

Bold type indicates unacceptable (i.e., LOS E or F) traffic operations.

The proposed project does not result in significant impacts based on the aforementioned thresholds of significance. The proposed project would cause LOS to decline slightly at the intersections of Willow Road with both Pomeroy Road and Hetrick Avenue. Only during the PM peak hour at the Willow Road/Hetrick Avenue intersection does LOS worsen by more than one service level, moving from LOS A to LOS C. By providing some congestion relief at the Los Berros Road and Tefft Street interchanges, the proposed project also reduces the potential for accidents at these locations. The project should improve emergency access to the Nipomo Mesa region by providing an additional access across the freeway and reducing congestion at nearby interchanges.

The project design will be required to meet applicable County standards and is consistent with the County General Plan Circulation Element. No airports or airstrips are part of the proposed project and no such facilities lie near it, so it will have no impact on air traffic.

4. Cumulative Impacts

The cumulative study area for this traffic analysis is based on the year 2030 future with the no project condition as the baseline. The proposed project accommodates and facilitates allowed development in the surrounding area. While this project will indirectly contribute to increases in traffic volume, such increases have been anticipated in the build-out analysis of the South County Circulation Study. As discussed in the previous section, the proposed project will reduce build-out impacts to nearby freeway ramps and intersections in 2030. Consequently, the proposed project has a beneficial effect on cumulative traffic conditions within the study area.

5. Mitigation Measures

The proposed project is improving future LOS and reducing average delay impacts at study area intersections and is providing the necessary mitigation to reduce traffic and circulation impacts in 2030. The mitigation measure presented below addresses potential future unacceptable LOS at the US 101/Willow Road ramp intersections.

B-1. Willow Road Facilities Design. Design features of the Willow Road facilities should not preclude a second ramp lane from being added to the US 101 northbound on- and off-ramps. Prior to approval of final design, the County Department of Public Works shall ensure that the design could accommodate such future ramp lanes.

6. Residual Impacts

This project will produce no significant impacts on traffic and circulation. The proposed project will improve traffic and circulation conditions within the Nipomo area.

V.C. NOISE

The following discussion of noise and noise impacts associated with the proposed project is based on the technical report *Noise Impact Analysis: Willow Road Extension/US 101 Interchange Project* prepared by LSA Associates, Inc (July 2005) included in Volume II, Appendix C of this document. This analysis is included in its entirety in Appendix C.

1. Existing Conditions

Fundamentals of Traffic Noise. The following is a brief discussion of fundamental traffic noise concepts. This discussion is pertinent to understanding the existing noise conditions in the project area and the projected short- and long-term noise impacts of the proposed project.

Sound, Noise, and Acoustics. Sound is a disturbance created by a moving or vibrating source in a gaseous or liquid medium or the elastic stage of a solid, and is capable of being detected by the human ear. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired.

Frequency and Hertz. A continuous sound can be described by its frequency (pitch) and its amplitude (loudness). Frequency relates to the number of pressure oscillations per second. Low-frequency sounds are low in pitch, like the low notes on a piano, whereas high-frequency sounds are high in pitch, like the high notes on a piano. Frequency is expressed in terms of oscillations, or cycles, per second. Cycles per second are commonly referred to as Hertz (Hz).

Sound Pressure Levels and Decibels. The amplitude of a sound determines its loudness. Loudness of sound increases and decreases with increasing and decreasing amplitude. Sound pressure level (SPL) is used to describe in logarithmic units the ratio of actual sound pressures to a reference pressure squared. These units are called bels, named after Alexander Graham Bell. To provide a finer resolution, a bel is subdivided into 10 decibels, abbreviated dB.

Adding Decibels. Because decibels are logarithmic units, sound pressure level cannot be added or subtracted by ordinary arithmetic means. For example, if one automobile produces 70 A-weighted decibels (dBA) as it passes an observer, two cars passing simultaneously would not produce 140 dBA; they would, in fact, combine to produce 73 dBA. When two sounds of equal loudness are combined, they will produce a noise level 3 dBA greater than the original individual noise level. In other words, sound energy must be doubled to produce a 3 dBA increase.

A-Weighted Decibels. Sound pressure level alone is not a reliable indicator of loudness. The frequency, or pitch, of a sound also has a substantial effect on how humans will respond. To approximate the frequency response of the human ear, a series of adjustments is usually applied to the sound measured by a sound level meter. The adjustments (referred to as a weighting network) are frequency dependent.

The A-scale weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-scale, C-scale, D-scale), but these scales are rarely, if ever, used in conjunction with highway traffic noise. Noise levels for traffic noise reports are typically reported in terms of A-weighted dBAs. In environmental noise studies, A-weighted SPLs are commonly referred to as noise levels. Table V.C-1 shows typical A-weighted noise levels.

Table V.C-1: Typical Noise Levels

Common Outdoor Activities	Noise Level dBA	Common Indoor Activities
	—110—	Rock Band
Jet Flyover at 300 m (1000 ft)	—100—	
Gas Lawn Mower at 1 m (3.3 ft)	—90—	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	—80—	Food Blender at 1 m (3.3 ft) Garbage Disposal at 1 m (3.3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	—70—	Vacuum Cleaner at 3 m (10 ft)
Heavy Traffic at 90 m (300 ft)	—60—	Normal Speech at 1 m (3.3 ft)
Quiet Urban, Daytime	—50—	Large Business Office Dishwasher Next Room
Quiet Urban, Nighttime	—40—	Theater, Large Conference
Quiet Suburban, Nighttime	—30—	Room (Background) Library
Quiet Rural Nighttime	—20—	Bedroom at Night, Concert Hall (Background)
	—10—	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, October 1998.

Human Response to Changes in Noise Levels. Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dBA. Outside such controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dBA. As discussed above, a doubling of sound energy results in a 3 dBA increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a highway) would result in a barely perceptible change in sound level.

Noise Descriptors. Noise in the daily environment fluctuates over time. Various noise descriptors have been developed to describe time-varying noise levels. The following is a list of the noise descriptors most commonly used in traffic noise analysis:

- Equivalent Sound Level (L_{eq}): L_{eq} represents an average of the sound energy occurring over a specified period. L_{eq} is, in effect, the steady-state sound level that, in a stated period, would contain the same acoustical energy as the time-varying sound that actually occurs during the same period. The one-hour A-weighted equivalent sound level, $L_{eq}(h)$, is the energy average of the A-weighted sound levels occurring during a one-hour period and is the basis for the Noise Abatement Criteria (NAC) used by Caltrans and the Federal Highway Administration (FHWA).

- Maximum Sound Level (L_{max}): L_{max} is the highest instantaneous sound level measured during a specified period.
- Day-Night Sound Level (L_{dn}): The U.S. Department of Housing and Urban Development (HUD) and the Environmental Protection Agency (EPA) have adopted the L_{dn} as their standard unit of measurement for noise levels. This measure increases the average noise level (L_{eq}) for late evening and early morning hours (10:00 p.m. to 7:00 a.m.) by 10 dBA. The daytime noise levels (7:01 a.m. to 9:59 p.m.) are then combined with these weighted levels and are averaged to obtain a 24-hour averaged noise level.

Sound Propagation. When sound propagates over a distance, it changes in both level and frequency content. The manner in which noise reduces with distance depends on the following factors.

Geometric Spreading. Sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance. Highway noise is not a single, stationary point source of sound. The movement of the vehicles on a highway makes the source of the sound appear to emanate from a line (i.e., a line source) rather than a point. This line source results in cylindrical spreading rather than the spherical spreading that results from a point source. The change in sound level from a line source is 3 dBA per doubling of distance.

Ground Absorption. Most often, the noise path between the highway and the observer is very close to the ground. Noise attenuation from ground absorption adds to the attenuation associated with geometric spreading. For acoustically hard sites (i.e., those sites with a reflective surface, such as a parking lot or a smooth body of water, between the source and the receiver), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees, between the source and the receiver), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed. When added to the geometric spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dBA per doubling of distance for a line source such as a highway.

Atmospheric Effects. Research by Caltrans and others has shown that atmospheric conditions can have a significant effect on noise levels within 60 meters (200 feet) of a highway. Wind has been shown to be the most important meteorological factor within approximately 150 meters (500 feet) of the source, whereas vertical air temperature gradients are more important for greater distances. Other factors such as air temperature, humidity, and turbulence also have significant effects. Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lower noise levels. Increased sound levels can also occur as a result of temperature inversion conditions (i.e., increasing temperature with elevation).

Shielding by Natural and Human-Made Features. A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by this shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dBA of noise reduction.

State and County Noise Regulations. The San Luis Obispo County General Plan (County General Plan) provides a policy framework for addressing potential noise impacts at the county level. The purpose of the County General Plan is to identify and minimize future noise conflicts. Among the most significant policies of the Noise Element of the County General Plan are numerical noise standards that limit noise exposure within sensitive land uses. Sensitive land uses include schools, parks, playgrounds, childcare centers, hospitals, retirement homes, clinics, and residential areas. The Noise Element includes an *exterior* noise standard of 60 dBA L_{dn} and an *interior* noise standard of 45 dBA L_{dn} the County Code also limits the hours of construction adjacent to residential or sensitive land uses between the hours of 7:00 a.m. to 9:00 p.m. on Monday through Friday and 8:00 a.m. to 5:00 p.m. on Saturdays and Sundays.

Existing Noise Conditions. Developed and undeveloped land uses in the project area were identified through land use maps, aerial photography, and site inspection. Within each land-use category, sensitive receptors (e.g., schools, churches, playgrounds, and residences) were then identified. The land use data and location of particular sensitive receptors were the basis for the selection of the noise monitoring and analysis sites for evaluating the proposed project.

Because no major roads currently exist adjacent to the modeled receptors, existing conditions were not modeled. Rather, the existing and future no project noise levels were obtained by monitoring ambient noise levels at five representative locations within the proposed project site. All of the selected monitoring locations were located at existing residences.

The primary source of noise that would affect sensitive noise receptors in the project area is traffic on Willow Road, Pomeroy Road, Hetrick Avenue, and Thompson Avenue. Ambient noise measurements were conducted to document existing noise levels at the five representative sensitive receptor locations along the project alignment. Table V.C-2 contains the results of these measurements. Table V.C-3 describes the physical location of each sensitive receptor location.

These noise measurements were used to establish the existing and future no project noise levels at all 22 modeled receptors in the project area. Table V.C-4 summarizes the existing traffic noise levels at the receptor locations. Of the 22 modeled receptor locations, no receptors currently exceed the 60 dBA L_{dn} noise standard.

Table V.C-2: Summary of Field -Measured Data (See Figure V.C-1)

Monitoring Location	Date	Start Time	Duration (minutes)	Measured Sound Level (L_{eq}, dBA L_{dn})
M-1	10/9/03	9:10 a.m.	20	58
M-2	10/9/03	9:45 a.m.	20	50
M-3	10/9/03	10:53 a.m.	20	42
M-4	10/9/03	1:13 p.m.	20	55
M-5	10/9/03	1:53 p.m.	20	42

Source: LSA Associates, Inc, 2003.

Table V.C-3: Physical Location of Noise Level Measurements

Monitoring Location	Address	Location on Property
M-1	695 Misty Glen Place.	In front of the house.
M-2	1108 Pomeroy Road.	In front of the house.
M-3	775 Willow Road	In front of the house.
M-4	702 Thompson Avenue	In front of the house.
M-5	Along Willow Road between Hetrick Avenue and US 101	On the side of the street.

Source: LSA Associates, Inc. 2003.

Table V.C-4: Existing Traffic Noise Levels (L_{eq})[1]

Rec #	Location	Type of Development	# of Units Represented	Existing Noise Level
R-1	Misty Glen Place	Residential	1	58
R-2	Pomeroy Road	Residential	1	50
R-3	Pomeroy Road	Residential	1	50
R-4	Pomeroy Road	Residential	1	50
R-5	Pomeroy Road	Residential	1	50
R-6	Pomeroy Road	Residential	1	50
R-7	Pomeroy Road	Residential	1	50
R-8	Willow Road	Residential	1	42
R-9	Willow Road	Residential	1	42
R-10	Cherokee Place	Residential	1	42
R-11	Cherokee Place	Residential	1	42
R-12	Cherokee Place	Residential	1	42
R-13	Cherokee Place	Residential	1	42
R-14	Cherokee Place	Residential	1	42
R-15	Cherokee Place	Residential	1	42
R-16	Cherokee Place	Residential	1	42
R-17	Cherokee Place	Residential	1	42
R-18	Cherokee Place	Residential	1	42
R-19	Thompson Avenue	Residential	1	55
R-20	Willow Road	Residential	1	42
R-21	Willow Road	Residential	1	42
R-22	Cherokee Place	Residential	1	42

Source: LSA Associates, Inc. 2003.

[1] The County of San Luis Obispo's noise standards are expressed in terms of L_{dn}. However, the traffic noise model generates its results as L_{eq} for peak hours. In urban/suburban areas when the dominant noise source is from traffic, it has been observed that the L_{dn} level equals the peak hour L_{eq} level.

2. Thresholds of Significance

The significance of project-related noise impacts associated with the construction and operation of the proposed project is based on County standards. For the purposes of this EIR, a project-related noise impact is considered significant if noise levels in areas representing sensitive land uses, such as single-family homes, experience one or more of the following conditions:

- The proposed project generates noise levels at any of the 22 receptor locations exceeding the County 60 dBA L_{dn} standard for exterior noise and 45 dBA L_{dn} for interior noise;

- A project related increase of 3 dBA or more over the existing level causing the noise environment to exceed existing noise level standards.

- The project exposes people to severe noise or vibration.

3. Project Impacts

To predict the noise impacts from the proposed project on the surrounding land uses, future noise levels were modeled at 22 receptor locations using projected peak hour traffic operations. Peak hour traffic volumes on US 101 and local collector roads were obtained from the traffic study provided by Fehr & Peers Transportation Consultants (July, 2004)[1]. The 22 receptor locations were modeled to represent residential land uses in the project vicinity. Traffic noise from US 101 was not audible at any of the modeled receptor locations and therefore was not included in the model estimating future noise levels with the proposed road project. The ambient noise monitoring locations and the modeled receptor locations are shown in Figure V.C-1.

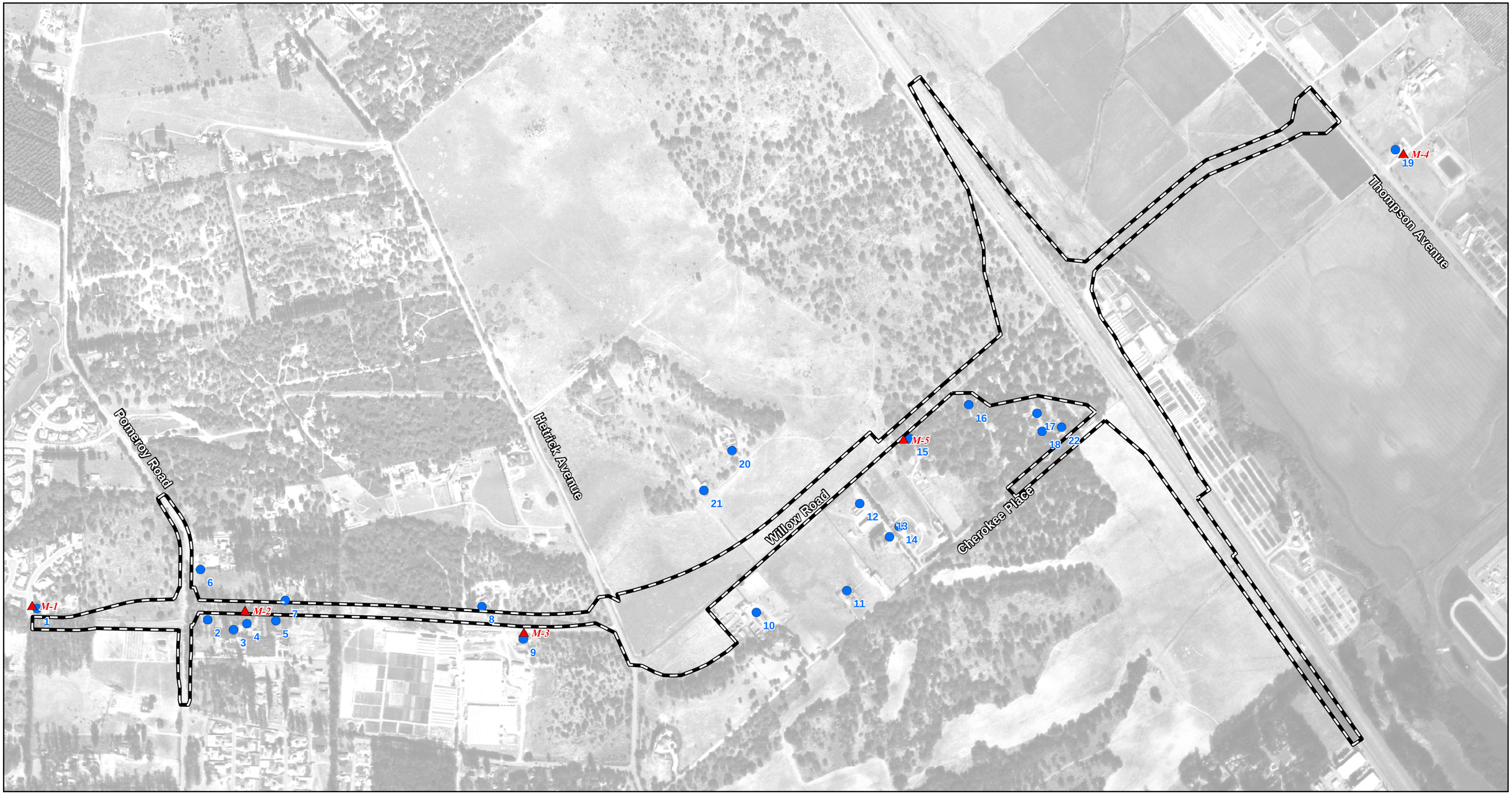
Construction Noise (Short-Term Impacts). Two types of short-term noise impacts would occur during construction of the proposed project—the transport of equipment and workers to the job site and construction of the project itself. Construction crew commutes and the transport of construction equipment and materials to the project site would incrementally raise noise levels on access roads leading to the site, but only for short periods of time. The pieces of heavy equipment for grading and construction activities will be moved on site, will remain for the duration of each construction phase, and therefore will not add to the daily traffic volume in the project vicinity. Nearby residences could experience a relatively high single-event noise of potentially 87 dBA L_{max} because of trucks passing at 15 meters (m) (50 feet [ft]). However, the projected construction traffic will be small and of short duration when compared to the existing traffic volumes on Willow Road, Pomeroy Road, Hetrick Avenue, Thompson Avenue, and other affected streets. Therefore, short-term construction related worker commutes and equipment transport noise impacts would be less than significant.

The second type of short-term noise impact is related to noise generated during excavation, grading, and roadway construction. Construction is performed in discrete steps, each of which has its own mix of equipment, and, consequently, its own noise characteristics. Therefore, noise levels along the proposed road alignment will change as road construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction related noise ranges to be categorized by work phase. Table V.C-5 lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 15 m (50 ft) between the equipment and a noise receptor.

Typical noise levels at 15 m (50 ft) from an active construction area can reach up to 91 dBA L_{max} during the noisiest construction phases. The site preparation phase, which includes grading and paving, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, and front loaders and all associated operational noises (e.g., back-up beepers). Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings.

The grading phase of the proposed project is expected to require the use of earthmovers, bulldozers, water trucks, and pickup trucks. Noise associated with the use of this type of construction equipment is estimated to range between 79 and 89 dBA L_{max} at a distance of 15 m (50 ft) from the active construction area during the grading phase. As seen in Table V.C-5, the maximum noise level

[1] This traffic report has since been updated as of December 2004 with minor revisions. However, the revisions do not change the results of this analysis.



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Legend

- CEQA Study Limits
- Monitor Location
- Receptor Location

FIGURE V.C-1

Willow Road Extension/U.S. 101 Interchange Project

CEQA Noise Impact Analysis
Monitoring and Modeled Receptor Locations

SOURCE: County of San Luis Obispo (Aerial), Rajappan & Meyer Consulting Engineers, Inc. (CAD).

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generated by each earthmover is assumed to be 88 dBA L_{max} at 15 m (50 ft). Each bulldozer would also generate 88 dBA L_{max} at 15 m (50 ft). The maximum noise level generated by water and pickup trucks is approximately 86 dBA L_{max} at 15 m (50 ft). As mentioned in Section C.1., when sounds of equal strength emanating from a point source occur at the same time, the noise level does not double, rather the noise level increases by 3 dBA. When constructing the proposed project, each piece of construction equipment operates as an individual point source. Because the loudest piece of equipment during the grading phase of construction is 88 dBA $L_{max,}$ the worst-case composite noise level at the nearest residence during this phase of construction would be 91 dBA L_{max} (at a distance of 15 m [50 ft] from an active construction area).

Equipment used during the tree clearing, such as chainsaws and wood chippers, would generate noise levels of 75 to 85 dBA L_{max} at 15 m (50 ft). These noise levels are lower than the levels that would be generated by the grading equipment. Therefore, the equipment used during the tree clearing would not result in additional significant noise impacts.

The closest existing residences in the vicinity of the project area are located 15 m (50 ft) from the project construction area. These residences may be subject to construction-related noise reaching 91 dBA L_{max}. Proposed mitigation measures will help to reduce the duration and severity of the noise. However, because construction operations are short-term/ temporary, the impact associated with construction-related noise is considered to be less than significant.

Table V.C-5: Typical Construction Equipment Noise Levels

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)[1]
Pile Drivers, 12,000 to 18,000 ft-lb/blow	81–96	93
Rock Drills	83–99	96
Jackhammers	75–85	82
Pneumatic Tools	78–88	85
Pumps	68–80	77
Dozers	85–90	88
Tractors	77–82	80
Front-End Loaders	86–90	88
Hydraulic Backhoe	81–90	86
Hydraulic Excavators	81–90	86
Graders	79–89	86
Air Compressors	76–86	86
Trucks	81–87	86

Source: Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek & Newman 1987.

[1] The Suggested Maximum Sound Levels is for average construction equipment that would likely be used on the proposed project. Larger than average construction equipment may generate higher noise levels such as those listed in the column titled "Range of Maximum Sound Levels Measured" in Table V.C-5.

Traffic Noise (Long-Term Impacts). Potential long-term noise impacts associated with the proposed project originate from traffic noise created by vehicles that use and will use the system of roadways in the project area. Long-term project noise impacts caused by the proposed project were determined by comparing existing roadway traffic noise to roadway traffic noise estimated for the year 2030. Roadway traffic noise in the year 2030 is considered to be a worst-case build-out scenario for the project area.

The ambient noise monitoring was used to establish the existing and future No Project noise levels (Table V.C-2). Sound levels for the year 2030 in the project area were determined by measuring peak hour traffic volumes at the 22 receptor locations. The existing traffic noise levels as compared to the future year 2030 with project conditions are shown in Table V.C-6. As described in thresholds of significance, if the peak hour traffic noise level at a sensitive receptor location is predicted to increase noise levels by 3dBA or more causing the exterior noise standard of 60 dBA L_{dn} to be exceeded, it is considered a potentially significant noise impact for which noise abatement measures must be considered.

At almost half the modeled receptor locations (10 out of 22) the Willow Road project will experience an increase of 3dBA or more, reaching levels up to 69 dBA L_{dn} and exceeding the County's exterior noise standard of 60 dBA L_{dn}. This is considered to be a significant impact for which mitigation measures must be considered.

Table V.C-6: Projected Traffic Noise Levels at Receptor Locations (L_{eq})[1]

Rec #	Location	Existing[2] Noise Level	Future With Project	Change from Existing Level
R-1	Misty Glen Place	58	**64**[3]	6
R-2	Pomeroy Road	50	**65**	15
R-3	Pomeroy Road	50	**61**	11
R-4	Pomeroy Road	50	**63**	13
R-5	Pomeroy Road	50	**64**	14
R-6	Pomeroy Road	50	**61**	11
R-7	Pomeroy Road	50	**69**	19
R-8	Willow Road	42	**66**	24
R-9	Willow Road	42	**62**	20
R-10	Cherokee Place	42	56	14
R-11	Cherokee Place	42	52	10
R-12	Cherokee Place	42	60	18
R-13	Cherokee Place	42	53	11
R-14	Cherokee Place	42	53	11
R-15	Cherokee Place	42	**61**	19
R-16	Cherokee Place	42	59	17
R-17	Cherokee Place	42	57	15
R-18	Cherokee Place	42	54	12
R-19	Thompson Avenue	55	57	2
R-20	Willow Road	42	52	10
R-21	Willow Road	42	53	11
R-22	Cherokee Place	42	56	14

Source: LSA Associates, Inc. 2003.

1 The County of San Luis Obispo's noise standards are expressed in terms of L_{dn}. However, the traffic noise model generates its results as L_{eq} for peak hours. In urban/suburban areas when the dominant noise source is from traffic, it has been observed that the L_{dn} level equals the peak hour L_{eq} level.

2 It is assumed that no additional transportation infrastructure would be added in the "Future Without Project" condition. Therefore, the Existing Traffic Noise Levels also apply to the "Future Without Project" condition.

3 Numbers in bold represent noise levels exceeding the County's exterior noise standard of 60 dBA.

Bold numbers in Table V.C-7 show impacted receptor locations with projected noise levels that exceed the County of San Luis Obispo exterior noise standards of 60 dBA L_{dn}. Following Table V.C-7 is a description of each of these receptor locations. These locations will experience significant noise impacts prior to mitigation. This table identifies sound wall heights necessary to mitigate future project noise levels. Sound walls are not feasible at many receptor locations due to the need to maintain driveway access.

Table V.C-7: Sound Barrier Modeling, (Leq)[1] (See Figure V.C-2)

Rec #	Future With Project (L_{eq}, dBA L_{dn})	Sound Wall (SW #)	With Wall H = 6' (1.8 m)		With Wall H = 8' (2.4 m)		With Wall H = 10' (3.05 m)		With Wall H = 12' (3.7 m)		With Wall H = 14' (4.3 m)		With Wall H = 16' (4.9 m)	
			L_{eq}	I.L.[2]	L_{eq}	I.L.	L_{eq}	I.L.	L_{eq}	I.L.	L_{eq}	I.L.	L_{eq}	I.L.
R-1	**64**[3]	SW #1	**62**	2	**61**	3	*59*[4]	*5*	*59*	5	*58*	*6*	*58*	*6*
R-2	**65**	None[5]	**65**	0	**65**	0	**65**	0	**65**	0	**65**	0	**65**	0
R-3	**61**	None[5]	**61**	0	**61**	0	**61**	0	**61**	0	**61**	0	**61**	0
R-4	**63**	None[5]	**63**	0	**63**	0	**63**	0	**63**	0	**63**	0	**63**	0
R-5	**64**	None[5]	**64**	0	**64**	0	**64**	0	**64**	0	**64**	0	**64**	0
R-6	**61**	None[5]	**61**	0	**61**	0	**61**	0	**61**	0	**61**	0	**61**	0
R-7	**69**	None[5]	**69**	0	**69**	0	**69**	0	**69**	0	**69**	0	**69**	0
R-8	**66**	SW #2	**62**	4	*60*	*6*	*59*	*7*	*58*	8	*57*	*9*	*57*	*9*
R-9	**62**	None[5]	**62**	0	**62**	0	**62**	0	**62**	0	**62**	0	**62**	0
R-10	56	None	56	0	56	0	56	0	56	0	56	0	56	0
R-11	52	None	52	0	52	0	52	0	52	0	52	0	52	0
R-12	60	None	60	0	60	0	60	0	60	0	60	0	60	0
R-13	53	None	53	0	53	0	53	0	53	0	53	0	53	0
R-14	53	None	53	0	53	0	53	0	53	0	53	0	53	0
R-15	**61**	SW #3	*59*	*2*	*57*	*4*	*56*	*5*	*55*	6	*54*	*7*	*53*	*8*
R-16	59	None	59	0	59	0	59	0	59	0	59	0	59	0
R-17	57	None	57	0	57	0	57	0	57	0	57	0	57	0
R-18	54	None	54	0	54	0	54	0	54	0	54	0	54	0
R-19	57	None	57	0	57	0	57	0	57	0	57	0	57	0
R-20	52	None	52	0	52	0	52	0	52	0	52	0	52	0
R-21	53	None	53	0	53	0	53	0	53	0	53	0	53	0
R-22	56	None	56	0	56	0	56	0	55	1	55	1	55	1

Source: LSA Associates, Inc. 2003

1 The County of San Luis Obispo's noise standards are expressed in terms of L_{dn}. However, the traffic noise model generates its results as L_{eq} for peak hours. In urban/suburban areas when the dominant noise source is from traffic, it has been observed that the L_{dn} level equals the peak hour L_{eq} level.

2 Insertion Loss. Insertion loss is the noise attenuation achieved by a noise-reducing feature (in this case a wall).

3 Numbers in bold represent noise levels exceeding the County's exterior noise standard of 60 dBA L_{dn}.

4 Italicized numbers indicate where a sound barrier would attenuate noise levels to below the County's exterior noise standard of 60 dBA L_{dn}.

5 Sound walls are not feasible at receptors where it is necessary to maintain driveway access.

R-1. This receptor represents an existing residence on Misty Glen Place north of Willow Road between Guadalupe Road and Pomeroy Road. Sound barriers were modeled to protect this residence. The results of the barrier analysis (see Table V.C-7) show that a ten-foot high sound wall would attenuate noise levels at this site below 60 dBA L_{dn} and therefore would reduce noise at the site to a less than significant level.

R-2, R-3, R-4, R-5, and R-7. These receptors represent existing residences accessed by Pomeroy Road. The proposed Willow Road extension will serve as the new accesses once it is constructed. Reducing traffic noise at an existing residence requires that a large continuous object or barrier be put in the path between the noise source, in this case Willow Road, and the existing residence. Because these residential properties will be using Willow Road as their access point, it is not feasible to erect a continuous sound barrier at these locations because a continuous barrier would block access to Willow Road. A discontinuous sound barrier, such as a wall that leaves a gap for a driveway, provides only a 2 to 3 dBA reduction in noise. R-2, R-5, and R-7, require noise reductions between 4 and 9 dBA. Therefore, a discontinuous sound wall will not provide sufficient noise abatement at these particular receptors. R-3 and R-4 necessitate a noise reduction of only 1-3 dBA. While this is technically feasible with a discontinuous sound barrier it is not practical or cost effective. Changes in noise of 3 dBA or less are barely perceptible to the human ear in an outdoor environment. Therefore, there would be a high cost associated with providing a sound wall with no perceptible noise reduction.

R-6. This receptor represents an existing residence along Pomeroy Road. As discussed above, because the resident's access will be onto Pomeroy Road, it is not feasible to abate traffic noise with a sound barrier.

R-8. This receptor location represents an existing residence along Willow Road west of Hetrick Avenue. Sound barriers were modeled to protect this resident. The results of the barrier analysis (see Table V.C-7) show that an eight-foot high sound wall would attenuate noise levels at this site below 60 dBA $L_{dn.}$ Therefore, provision of a noise wall would reduce noise at the site to a less than significant level.

R-9. This receptor location represents an existing residence along Willow Road west of Hetrick Avenue. As property access is via a driveway onto Willow Road, as discussed above, it is not feasible to abate traffic noise with a sound barrier.

R-15. This receptor location represents an existing residence along Cherokee Place between Hetrick Avenue and US 101. A sound barrier was modeled to protect this residence. The results of the barrier analysis (see Table V.C-7) show that provision of a six-foot high sound wall would attenuate noise levels at this site below 60 dBA L_{dn} and therefore would reduce noise at the site to a less than significant level.

Sound walls to attenuate long-term noise impacts were analyzed for each of these sensitive receptor locations. At each location, six sound barrier heights were analyzed: 1.8, 2.4, 3.05, 3.7, 4.3, and 4.9 m (6, 8, 10, 12, 14, and 16 ft). The locations of the modeled sound barriers are shown in Figure V.C-2.

Of the 10 receptor locations that would exceed the exterior noise threshold, construction of sound barriers at 7 receptor locations is determined infeasible due to the need to maintain property access

onto Willow Road, as discussed above. Results of the sound wall modeling are shown in Table V.C-7. The sound walls that would be effective in reducing the impacts of noise exposure in the project area are described below:

Sound Wall No. 1. A 39 m (129 ft) barrier in length, was analyzed within the proposed County right-of-way along the north side of Willow Road between Guadalupe and Pomeroy Road to protect receptor location #1 (R-1). The results of the noise modeling are shown in Table V.C-7. The location of Receptor R-1 and the modeled sound wall are shown in Figure V.C-2.

Sound Wall No. 2. A 97 m (318 ft) barrier in length, was analyzed within the proposed County right-of-way along Willow Road West of Hetrick Avenue to protect receptor location #8 (R-8). The results of the noise modeling are shown in Table V.C-7. The location of Receptor R-8 and the modeled sound wall are shown in Figure V.C-2.

Sound Wall No. 3. A 79 m (259 ft) barrier in length, was analyzed within the proposed County right-of-way along Cherokee Place east of Hetrick Avenue to protect receptor location #15 (R-15). The results of the noise modeling are shown in Table V.C-7. The location of Receptor R-15 and the modeled sound wall are shown in Figure V.C-2.

Table V.C-8 lists the barrier heights that would attenuate noise levels at three receptor locations below 60 dBA L_{dn}. These walls are shown in Figure V.C-2.

Table V.C-8: Required Sound Barriers

SW #	Benefited Receptors	Wall Height m (ft)
SW #1	R-1	3.05 (10)
SW #2	R-8	2.4 (8)
SW #3	R-15	1.8 (6)

Source: LSA Associates, Inc. 2004

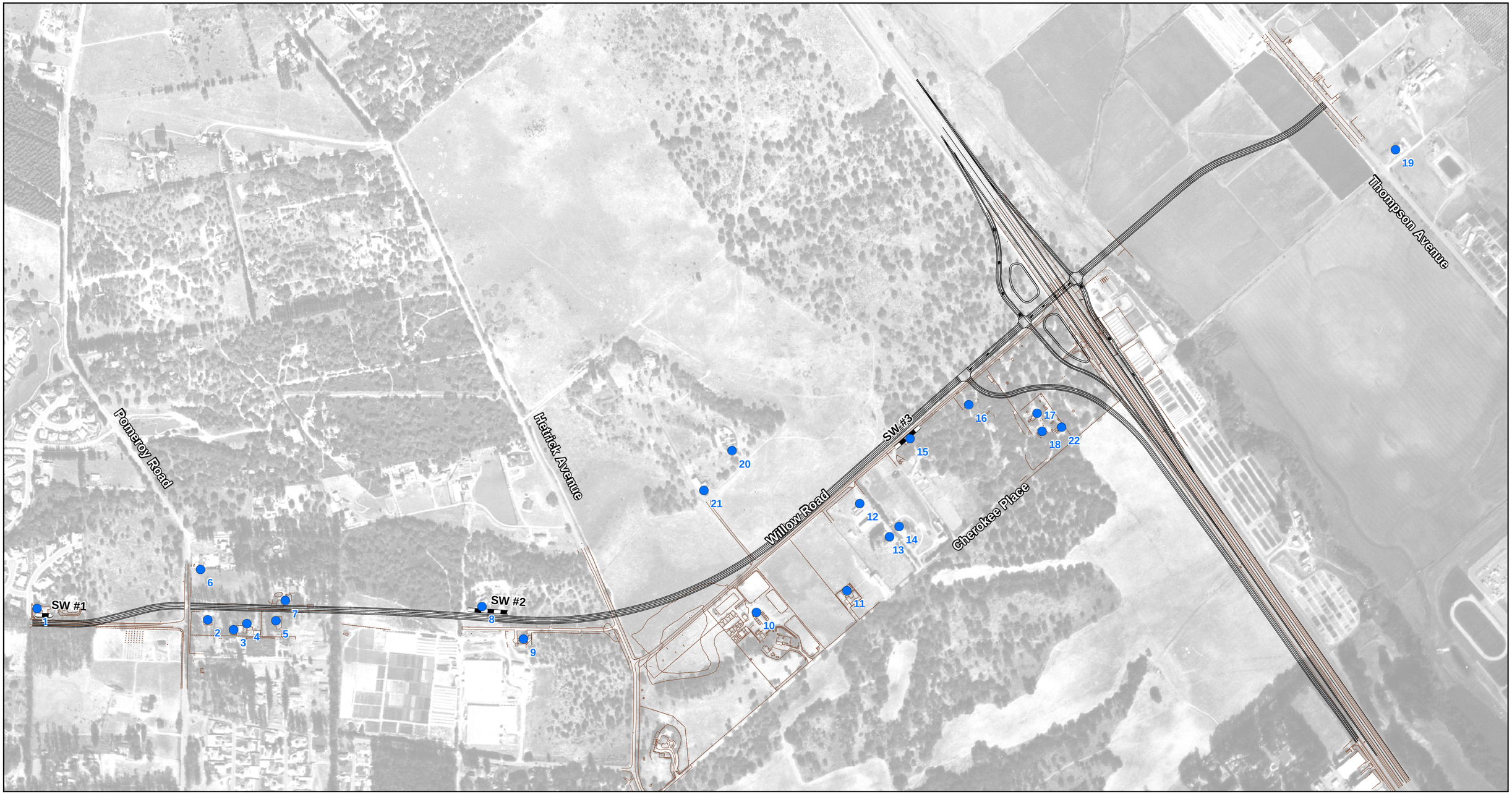

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FIGURE V.C-2

Legend

Sound Barrier

Receptor Location

0 500 1,000

Feet

Willow Road Extension/U.S. 101 Interchange Project

CEQA Noise Impact Analysis
Modeled Soundwall and Receptor Locations

SOURCE: County of San Luis Obispo (Aerial), Rajappan & Meyer Consulting Engineers, Inc. (CAD).

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Future (2030) Traffic Noise Levels

The proposed Willow Road Extension/U.S. Highway 101 Interchange and frontage road will generate automobile traffic and a long-term source of traffic noise which will alter future noise levels in the immediate area. Although the proposed project is not obligated to mitigate for impacts to development that is not currently on the ground, the 1999 Willow Road/Highway 101 Interchange FEIR included a mitigation measure that areas that could be impacted by the proposed project would be identified via modeled noise contours at the 60, 65 and 70 dBA thresholds. These contours could then be used to amend the County's Noise Element for the major arterials and collector roads to address future area buildout. The following information addresses the mitigation measure outlined in the 1999 Willow Road/Highway 101 Interchange FEIR.

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic-related noise conditions in the project vicinity. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The future (2030) average daily traffic (ADT) volumes in the area were taken from the *Traffic Impact Analysis* prepared for the project by Fehr & Peers Transportation Consultants (July 2004). The resultant noise levels are weighted and summed over 24-hour periods to determine the Ldn values. As shown in Table A, traffic noise along these roadway segments varies from relatively low along Hetrick Avenue and Pomeroy Road and high along Willow Road and US101. The locations of the future traffic noise contours are shown in Figure 1.

Table V.C-9: Future (2030) Traffic Noise Levels

Roadway Segment	ADT	Center-line to 70 Ldn (feet)	Center-line to 65 Ldn (feet)	Center-line to 60 Ldn (feet)	Ldn (dBA) 50 Feet from Outermost Lane
Willow Road from Thompson Road to US101 NB Ramps	3,800	< 50[2]	73	152	65.5
Willow Road from US101 SB Ramps to Frontage Road	11,600	71	149	319	70.3
Willow Road from Frontage Road to Hetrick Avenue	9,100	61	127	271	69.2
Willow Road from Hetrick Avenue to Pomeroy Road	7,100	< 50	108	230	68.2
Willow Road west of Pomeroy Road	8,000	56	117	249	68.7
Frontage Road	3,900	< 50	54	116	64.8
Hetrick Avenue north of Willow Road	2,800	< 50	< 50	93	63.3
Hetrick Avenue south of Willow Road	3,800	< 50	53	114	64.7
Pomeroy Road north of Willow Road	11,500	52	111	238	69.5
Pomeroy Road south of Willow Road	3,500	< 50	50	108	64.3
US101	70,600	325	699	1505	80.0

Source: LSA Associates, Inc., June 2005.

[2] Traffic noise within 50 feet of a roadway centerline requires site-specific analysis.

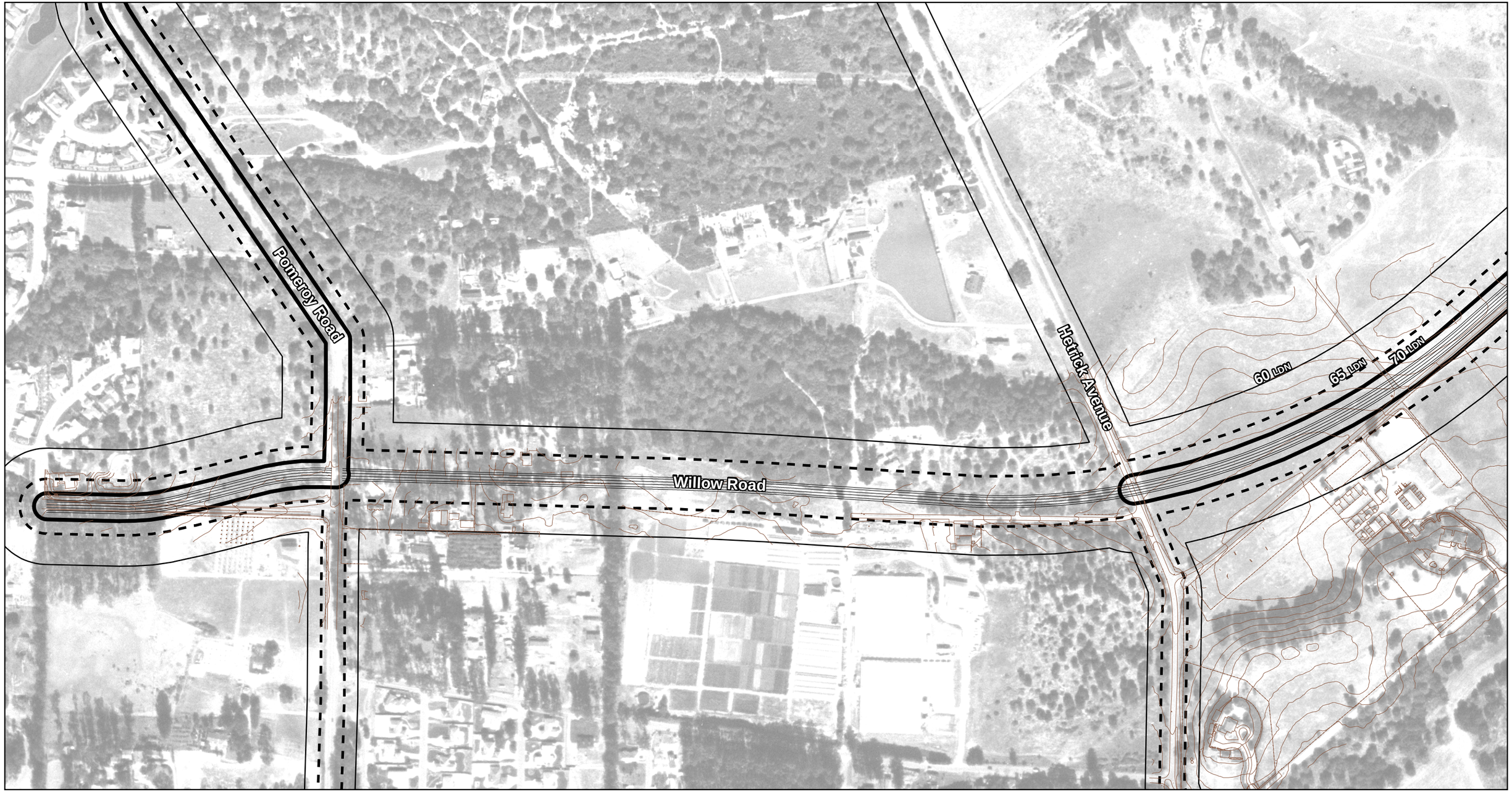
Sensitive receptors locations, such as residences, constructed outside of the 60 dBA Ldn noise contours would not require mitigation measures to meet the County's 60 dBA Ldn exterior noise standard. New residential construction would provide a minimum of 15 dBA of exterior to interior noise attenuation with windows open and 24 dBA with windows closed. Therefore, no mitigation measures would be required to meet the County's 45 dBA Ldn interior noise standard (i.e., 60 dBA - 15 dBA = 45 dBA).

Sensitive land uses located between the 60 and 65 dBA Ldn traffic noise contours would require mitigation measures to meet the County's 60 dBA Ldn exterior noise standard. These measures could include the construction of a six-foot barrier, such as a concrete block wall or earth berm, along the property line. With windows or doors open, interior noise levels would exceed the 45 dBA Ldn standard (i.e., 65 dBA - 15 dBA = 50 dBA). With windows closed, interior noise levels in would not exceed the standard (i.e., 65 dBA - 24 dBA = 41 dBA). Therefore, air-conditioning systems, a form of mechanical ventilation, would be required to ensure that windows can remain closed for a prolonged period of time.

Sensitive land uses located between the 65 and 70 dBA Ldn traffic noise contours would require mitigation measures to meet the County's 60 dBA Ldn exterior noise standard. These measures could include the construction of an eight-foot barrier, such as a concrete block wall or earth berm, along the property line. With windows or doors open, interior noise levels would exceed the 45 dBA Ldn standard (i.e., 69 dBA - 15 dBA = 54 dBA). With windows closed, interior noise levels in would not exceed the standard (i.e., 69 dBA - 24 dBA = 45 dBA). Therefore, air-conditioning systems, a form of mechanical ventilation, would be required to ensure that windows can remain closed for a prolonged period of time.

Sensitive land uses located within the 70 dBA Ldn traffic noise contour would require mitigation measures to meet the County's 60 dBA Ldn exterior noise standard. These measures could include the construction of a ten-foot barrier, such as a concrete block wall or earth berm, along the property line. With windows or doors open, interior noise levels would exceed the 45 dBA Ldn standard (i.e., 70 dBA - 15 dBA = 55 dBA). With windows closed, interior noise levels in these units would also exceed 45 dBA Ldn standard (70 dBA - 24 dBA = 46 dBA). Therefore, building facade upgrades would be required for all bedrooms exposed to traffic noise. Air-conditioning systems, a form of mechanical ventilation, would be required for bedrooms with exposure to the traffic to ensure that windows can remain closed for a prolonged period of time.

A site specific noise impact analysis would be required for any proposed noise sensitive land uses that would be potentially exposed to traffic noise exceeding 60 dBA Ldn.

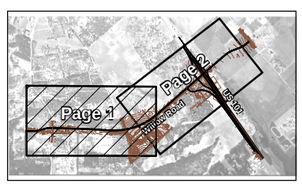


Legend

- 70 dBA LDN Contour
- 65 dBA LDN Contour
- 60 dBA LDN Contour

0 200 400

Feet



SOURCE: COUNTY OF SAN LUIS OBISPO (AERIAL), RAJAPPAN & MEYER CONSULTING ENGINEERS, INC. (CAD).

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FIGURE V.C-3

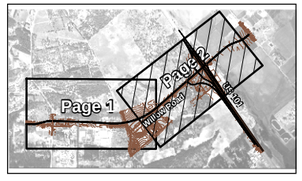
Willow Road Extension/U.S. 101 Interchange Project

Future Traffic Noise Contours - Part 1

Legend

- 70 dBA LDN Contour
- 65 dBA LDN Contour
- 60 dBA LDN Contour

0 200 400
Feet



SOURCE: COUNTY OF SAN LUIS OBISPO (AERIAL), RAJAPPAN & MEYER CONSULTING ENGINEERS, INC. (CAD).

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FIGURE V.C-4

Willow Road Extension/U.S. 101 Interchange Project
Future Traffic Noise Contours - Part 2

4. Cumulative Impacts

The noise impacts of the Willow Road extension, US 101 interchange and frontage road must be considered collectively with the noise impacts that would accrue from other projects proposed in the area. For a list of the proposed projects see Section IV.B Cumulative Projects.

Completion of the proposed project and buildout of the South County Circulation Study planned roadways will result in the increase and redistribution of automobile traffic on regional roadways. The list of cumulative projects as outlined in Section IV.B have been accounted for in the future traffic modeling (year 2030) for the project. Because the noise analysis was based on these future traffic volumes, the noise analysis has considered the cumulative noise impacts of reasonably foreseeable future actions. Future changes in traffic volumes will incrementally change noise levels in areas adjacent to the proposed project facilities, as well as in areas adjacent to other roadways in the vicinity. Long-term noise level increases associated with the proposed project are considered to be significant along Willow Road. Mitigation Measures C-7 through C-9 partially address the significant long-term noise level increases associated with the proposed project.

Short-term noise impacts associated with the development of the cumulative projects list could result in localized noise impacts if construction of one or more of the projects on the cumulative projects list is occurring in the same space and at the same time as the proposed project. Restrictions on the hours that construction activities can take place per the County Noise Ordinance and Mitigation Measure C-1 below would generally reduce the impact of construction-related noise impacts on existing residences and other sensitive land-uses. Short-term noise impacts from other construction activities occurring in the project study area simultaneously would be restricted to areas immediately adjacent to the particular project construction site. Therefore, short-term, construction-related noise impacts associated with the proposed project, even when added to noise impacts from other known construction projects are not considered to be significant over the long-term.

5. Mitigation Measures

In addition to the County's regulations, the following standard mitigation measures shall be implemented to reduce construction-related noise impacts to the extent feasible:

C-1, Construction Hours. The County shall restrict construction activities to the hours between 7:00 a.m. and 9:00 p.m. on Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturdays and Sundays. This condition shall be included in the construction plan specifications.

C-2, Caltrans Sound Control Requirements. To minimize the construction related noise impacts for existing residences adjacent to the project site, the County shall ensure that the project follows Caltrans Standard Specifications, Section 7-10/I, "Sound Control Requirements." This condition shall be included in the construction plan specifications.

C-3, Construction Noise Restrictions.

a. The County shall ensure that the contractor shall provide training for all crew members regarding all requirements to minimize construction related noise impacts. This condition shall be included in the construction plan specifications.

b. The County shall require the construction of temporary barriers where construction activities will be conducted near residential receptors, and where complaints have been received. This condition shall be included in the construction plan specifications.

C-4, Portable Equipment. The County shall ensure that portable equipment is located as far as possible from the noise sensitive locations as is feasible. This condition shall be included in the construction plan specifications.

C-5, Staging Areas. The County shall ensure that the construction vehicle staging areas and equipment maintenance areas are located as far as possible from sensitive receptor locations. This condition shall be included in the construction plan specifications.

C-6, Internal Combustion Engine Mufflers. The County shall ensure that each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without the muffler. This condition shall be included in the construction plan specifications.

The following mitigation measures shall be implemented by the County to reduce certain long-term noise impacts associated with the proposed project:

C-7, Sound Barrier No. 1. The County shall build a sound barrier ten feet high and approximately 129 feet long within the proposed County right-of-way along the north side of Willow Road between Guadalupe and Pomeroy Road to protect receptor location #1 (R-1).

C-8, Sound Barrier No. 2. The County shall build a sound barrier 8 feet high and approximately 318 feet long within the proposed County right-of-way along Willow Road west of Hetrick Avenue to protect receptor location #8 (R-8).

C-9, Sound Barrier No. 3. The County shall build a sound barrier six feet high and approximately 259 feet long within the proposed County right-of-way along Cherokee Place east of Hetrick Avenue to protect receptor location #15 (R-15).

6. Residual Impacts

The proposed project will have significant noise impacts in the project area over the long-term. Of the 22 receptor locations representing existing residences modeled in the project area, 10 receptor locations could experience ambient noise levels exceeding the County's exterior noise standard of 60 dBA $L_{dn.}$ For reasons explained above under long-term project impacts, it is only feasible to provide sound barriers at three of the 10 receptor locations. Therefore, seven receptor locations or residences will experience significant noise impacts for which noise abatement measures are not logistically feasible. Therefore, long-term traffic noise impacts at these seven residences will remain as significant, unavoidable, adverse impacts. However, since the proposed project will result in a redistribution of vehicle traffic on the study area roadway system such that levels of service at area intersections are improved, the proposed project will not directly alter the regional or cumulative noise conditions.

V.D. AIR QUALITY

The following discussion of air quality and air quality impacts associated with the proposed project is based on the technical report *Air Quality Analysis: Willow Road Extension/US 101 Interchange Project,* prepared by LSA Associates, Inc. (July 2005). This analysis is included in its entirety in Volume II, Appendix D.

1. Existing Conditions

Climate. The climate of San Luis Obispo County can be characterized as Mediterranean, with warm, dry summers and cooler, damp winters. Along the coast, mild temperatures are the rule throughout the year due to the moderating influence of the Pacific Ocean. This effect is diminished inland in proportion to distance from the ocean or by major intervening terrain features, such as the coastal mountain ranges. As a result, inland areas are characterized by a wider range of temperature conditions. Maximum summer temperatures average about 70 degrees Fahrenheit near the coast, while inland valleys are often in the high 90s. Minimum winter temperatures average from the low 30s along the coast to the low 20s inland. The climatological station closest to the site that monitors temperature and rainfall is the Santa Maria Airport Station.[1]

Regional meteorology is largely dominated by a persistent high pressure area that commonly resides over the eastern Pacific Ocean. Seasonal variations in the strength and position of this pressure cell cause seasonal changes in the weather patterns of the area. The Pacific High remains generally fixed several hundred miles offshore from May through September, enhancing onshore winds and opposing offshore winds. During spring and early summer, as onshore breezes pass over the cool water of the ocean, fog and low clouds often form in the marine air layer along the coast. Surface heating in the interior valleys dissipates the marine layer as it moves inland.

From November through April, the Pacific High tends to migrate south, allowing northern storms to move across the County. About 90 percent of the total annual rainfall is received during this period. Winter conditions are usually mild, with intermittent periods of precipitation followed by mostly clear days. Rainfall amounts can vary considerably around the County ranging anywhere from 30 to 71 cm (12 to 28 inches). Average rainfall at the Santa Maria Airport Station varied from 6.93 cm (2.73 inches) in February to 1.17 cm (0.46 inches) or less between May and October, with an average annual rainfall total of 32.72 cm (12.88 inches).

Airflow around the County plays an important role in the movement and dispersion of pollutants. The speed and direction of local winds are controlled by the location and strength of the Pacific high pressure system and other global patterns, by topographical factors, and by circulation patterns resulting from temperature differences between the land and sea. In spring and summer, when the Pacific High attains its greatest strength, onshore winds from the northwest generally prevail during the day. At night, as the sea breeze dies, weak drainage winds flow down the coastal mountains and valleys to form a light, easterly land breeze.

In the fall, onshore surface winds decline and the marine layer grows shallow, allowing an occasional reversal to a weak offshore flow. This, along with the diurnal alternation of land-sea breeze circulation, can sometimes produce a “sloshing” effect. Under these conditions, pollutants may

[1] Western Regional Climatic Center. 2003. http://www.wrcc.dri.edu (accessed October 14, 2003).

accumulate over the ocean for a period of one or more days and are subsequently carried back onshore with the return of the sea breeze. Strong inversions can form at this time, trapping pollutants near the ground surface.

This effect is intensified when the Pacific High weakens or moves inland. This may produce a "Santa Ana" condition in which air, often pollutant-laden, is transported into the county from the east and southeast. This can occur over a period of several days until the high pressure system returns to its normal location, breaking the pattern. The breakup of a Santa Ana condition may result in relatively stagnant conditions and a buildup of pollutants offshore. The onset of the typical daytime sea breeze can bring these pollutants back onshore, where they combine with local emissions to cause high pollutant concentrations. Not all occurrences of the post-Santa Ana condition lead to high ambient pollutant levels, but it does play an important role in the air pollution meteorology of the County.

Air Quality Management Authorities. A region's topographic features have a direct correlation with air pollution flow; therefore, they are used by the California Air Resources Board (ARB) to determine the boundary of air basins. The ARB has divided the State into 15 air basins. A local air district is then formed for each air basin. The ARB coordinates and oversees both state and federal air pollution control programs in California. The ARB oversees activities of local air quality management agencies and is responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for federal Environmental Protection Agency (EPA) approval.

The Willow Road Extension/US 101 Interchange project is located in and near the community of Nipomo, an area within the South Central Coast Air Basin (SCCAB). The SCCAB includes San Luis Obispo, Santa Barbara, and Ventura Counties. Air quality regulation in the project region of the SCCAB is administered by the San Luis Obispo County Air Pollution Control District (APCD).

Air Quality Standards and Measurements. Pursuant to the federal Clean Air Act (CAA) of 1970, the U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) The NAAQS were established for six major pollutants termed "criteria" pollutants. The NAAQS were developed primarily, to protect public health, and secondarily, to prevent degradation to the environment (e.g., impairment of visibility, damage to vegetation and property).

The six criteria pollutants include ozone (O_3), carbon monoxide (CO), and particulates less than 10 microns (PM_{10}), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). In 1997, the EPA added new air quality standards for ground-level ozone and for fine particulate matter 2.5 microns or less in diameter ($PM_{2.5}$). The primary standards for these pollutants are shown in Table V.D-1. A discussion of each pollutant can be found in Appendix D, page 13.

Table V.D-1: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[2,5]	Secondary[2,6]	Method[7]
Ozone (O_3)	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	0.12 ppm (235 µg/m^3)[8]	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	–		0.08 ppm (157 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	20 µg/m^3		50 µg/m^3		
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	No Separate State Standard		65 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Nondispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m$_3$)	None	Nondispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	–	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.25 ppm (470 µg/m^3)		–		
Lead	30-day Average	1.5 µg/m^3	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3	Same as Primary Standard	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	–	Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	–	
	3-Hour	–		–	0.5 ppm (1300 µg/m^3)	
	1-Hour	0.25 ppm (655 µg/m^3)		–	–	
Visibility Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Cloride[9]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: ARB (July 2003).

Footnotes:

[1] California standards for ozone; carbon monoxide (except Lake Tahoe); sulfur dioxide (1 and 24 hour); nitrogen dioxide; suspended particulate matter, PM_{10}; and visibility-reducing particles are values not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25° C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25° C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent procedure that can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

[8] New federal eight-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18, 1997. Contact U.S. EPA for further clarification and current federal policies.

[9] The ARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Air quality monitoring stations are located throughout the nation and maintained by the local air districts and state air quality regulating agencies. Data collected at permanent monitoring stations are used by the EPA to identify regions as "attainment" or "non-attainment," depending on whether the regions met the requirements stated in the primary NAAQS. Non-attainment areas are imposed with additional restrictions as required by the EPA. In addition, different classifications of attainment, such as marginal, moderate, serious, severe, and extreme, are used to classify each air basin in a state on a pollutant - by - pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and comply with the NAAQS.

The region is classified as follows:

1-hour Ozone: Attainment for federal standards, attainment for state standards.

8-hour Ozone: Preliminary attainment for federal standards.

PM_{10}: Attainment for federal standards, non-attainment for state standards.

$PM_{2.5}$: Preliminary non-attainment for federal standards, unclassified for state standards.

CO: Attainment for both federal and state standards.

NO_2: Attainment for both federal and state standards.

The area is in attainment or unclassified for all other pollutants under and federal air quality standards.

Regional Clean Air Plan. The California Clean Air Act (CCAA) provides the APCD with the authority to regulate stationary sources of air pollution and to manage transportation activities at indirect sources. Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution such as motor vehicles at an intersection and on highways. The California ARB regulates emissions from motor vehicles and fuels.

As part of the California Clean Air Act, the APCD is required to develop a plan to achieve and maintain the State ozone standard by the earliest practicable date. The Clean Air Plan (CAP) outlines the Pad's strategies to reduce ozone precursor emissions from a wide variety of stationary and mobile sources.

The APCD and the San Luis Obispo Council of Governments (SLOCOG) are responsible for formulating and implementing the Clean Air Plan (CAP) for the SCCAB. A CAP describes air pollution control strategies to be taken by counties or regions classified as non-attainment areas. The CAP's main purpose is to bring the area into compliance with the requirements of federal and State air quality standards. The CAP uses the assumptions and projections by local planning agencies to determine control strategies for regional compliance status. Therefore, any projects causing a significant impact on air quality would impede the progress of the CAP. The first CAP was adopted in 1991. Each CAP has a 20-year horizon and is updated every three years. The most recent CAP was prepared in 2001.

For a project in the SCCAB to be consistent with the CAP, the pollutants emitted from the project must not exceed the APCD significance threshold or cause a significant impact on air quality (see

section on thresholds of significance). If feasible mitigation measures can be implemented to reduce the project's impact level from significant to less than significant under CEQA, the project is considered to be consistent with the CAP.

Air quality models are used to demonstrate that the project's emissions will not contribute to the deterioration or impede the progress of air quality goals stated in the CAP. The air quality models use project-specific data to estimate the quantity of pollutants generated from the implementation of a project.

Implementation of transportation control measures is a major goal of the SCCAB Clean Air Plan. Transportation control measures focus on traffic flow improvements and traffic calming. Implementation of transportation control measures helps provide mobile source emission reductions necessary to achieve State air control standards. The Willow Road Extension/US 101 Interchange project is just such a transportation control measure and is estimated to have a positive impact on air quality locally and in the region.

South County Air Quality Mitigation Program. As a partial means to mitigate for cumulative effects from new development, each new residence in the South County Planning Area will be subject to the South County Air Quality Mitigation fee. This program funds several strategies within the South County to improve air quality and reduce single-occupant vehicles, by: attracting transit ridership through regional bus stop improvements; replacement of older, high polluting buses with much cleaner school buses; encouraging carpooling through park-and-ride lot improvements and ridesharing advertising; promoting the use of bicycles through bike lane installation; reducing dust through limited road paving of several unpaved roads; and by providing electronic information/services locally to reduce vehicle trip lengths.

In 1994, the South County Area Plan was adopted and the associated EIR was certified. As a part of that analysis, a cumulative assessment of the buildout impacts of the planning area was completed. While cumulative impacts to air quality was identified in the EIR as potentially significant and unavoidable, the findings recognized that the existing cumulative air quality mitigation program, combined with a slight improvement over the previous Area Plan buildout would offset some of these impacts. Extension of Willow Road to Highway 101 was generally anticipated in this EIR.

Local Air Quality Monitoring. The project site is located within the APCD jurisdiction. The APCD maintains ambient air quality monitoring stations throughout the SCCAB. The Nipomo Regional Park air quality monitoring station monitors four of the criteria pollutants: ozone, NO_2, SO_2, and PM_{10}. The closest monitoring station with CO and $PM_{2.5}$ data is the Santa Maria station. Air quality trends identified from data collected at both air quality monitoring stations between 1998 and 2002 are listed in Table V.D-2. From the ambient air quality data listed, it can be seen that CO levels have not exceeded the relevant federal or State standards in the past three years (prior to 2000, CO concentrations were not monitored at this station). Ozone levels in the proposed project area did not exceed the federal and State standard in the past five years. The PM_{10} level in the proposed project area exceeded the State standard from 1 to 3 days per year in the past five years and never exceeded the federal PM_{10} standard in the past five years. The $PM_{2.5}$ levels did not exceed the federal standard in the five years (there is no State standard for $PM_{2.5}$). Neither the nitrogen dioxide level nor the sulfur dioxide level in the proposed project area exceeded the federal or state standard in the past five years.

Table V.D-2: Ambient Air Quality at the Nipomo Regional Park Air Monitoring Station

Pollutant	Standard	2002	2001	2000	1999	1998
Carbon Monoxide[1]						
Max 1-hr concentration (ppm)		3.1	3.5	4.0	Not monitored	
No. days exceeded: State	> 20 ppm/1-hr	0	0	0	--	--
Federal	> 35 ppm/1-hr	0	0	0	--	--
Max 8-hr concentration (ppm)		1.2	1.3	2.1	Not monitored	
No. days exceeded: State	≥ 9.0 ppm/8-hr	0	0	0	--	--
Federal	≥ 9 ppm/8-hr	0	0	0	--	--
Ozone						
Max 1-hr concentration (ppm)		0.080	0.085	0.078	0.089	0.057
No. days exceeded: State	> 0.09 ppm/1-hr	0	0	0	0	0
Federal	> 0.12 ppm/1-hr	0	0	0	0	0
Max 8-hr concentration (ppm)		0.069	0.080	0.066	0.076	0.050
No. days exceeded: Federal	> 0.08 ppm/8-hr	0	0	0	0	0
Particulates (PM_{10})						
Max 24-hr concentration (ppm)		55	64	113	41	27
No. days exceeded: State	> 50 $\mu g/m^3$	2	3	1	0	0
Federal	> 150 $\mu g/m^3$	0	0	0	0	0
Annual geometric average concentration		19	20	18	14	15
Annual arithmetic average concentration		20	24	21	17	10
No. days exceeded: State	> 20 $\mu g/m^3$ geo. avg	0	0	0	0	0
Federal	> 50 $\mu g/m^3$ arith. avg	0	0	0	0	0
Particulates ($PM_{2.5}$)[2]						
Max 24-hr concentration (ppm)		21.3	43.2	28.7	24.3	NM[2]
No. days exceeded: Federal	> 65 $\mu g/m^3$	0	0	0	0	--
Annual avg. concentration		9.6	10.4	9.8	11.5	NM
No. days exceeded: State	> 12 $\mu g/m^3$ annual avg	0	0	0	0	--
Federal	> 15 $\mu g/m^3$ annual avg	0	0	0	0	--
Nitrogen Dioxide						
Max 1-hr concentration (ppm)		0.047	0.042	0.043	0.067	0.041
No. days exceeded: State	> 0.25 ppm/1-hr	0	0	0	0	0
Annual avg. concentration		0.005	NM	0.006	0.007	NM
No. days exceeded: Federal	0.053 ppm annual avg	0	--	0	0	--
Sulfur Dioxide						
Max 1-hr concentration (ppm)		0.065	0.059	0.140	0.117	0.052
No. days exceeded: State	> 0.25 ppm/1-hr	0	0	0	0	0
Max 3-hr concentration (ppm)		0.037	0.040	0.083	0.039	0.028
No. days exceeded: Federal	> 0.5 ppm/3-hr	0	0	0	0	0
Max 24-hr concentration (ppm)		0.014	0.014	0.016	0.013	0.008
No. days exceeded: State	> 0.04 ppm/24-hr	0	0	0	0	0
Federal	> 0.14 ppm/24-hr	0	0	0	0	0
Annual avg. concentration		0.004	0.003	0.003	0.002	0.003
No. days exceeded: Federal	0.053 ppm annual avg.	0	0	0	0	0

Source: EPA and ARB 1998 to 2002

[1] Carbon monoxide (CO) and $PM_{2.5}$ data are from the Santa Maria station because CO and $PM_{2.5}$ are not monitored at the Nipomo Regional Park station.

[2] NM = Not monitored

2. Thresholds of Significance

Specific criteria for determining whether the potential air quality impacts of a project are significant are set forth in the Pad's CEQA Air Quality Handbook and stated in the County of San Luis Obispo Initial Study Checklist. Air quality impacts are considered significant if the following result:

- Violation of state or federal ambient air quality standard, or air quality emission thresholds established by the APCD are exceeded;
- Exposure of a sensitive receptor to substantial air pollutant concentrations;
- Create or subject individuals to objectionable odors;
- Inconsistency with the Clear Air Plan (CAP) for San Luis Obispo County.

Thresholds for Short-Term Construction Emissions. Mitigation of construction activities is required when the emission thresholds outlined in Table V.D-3 are equaled or exceeded by both fugitive and combustion emissions.

Table V.D-3: Level of Construction Activity Requiring Mitigation

Pollutant of Concern	Thresholds[1]			Mitigation Measures
	Tons/Qtr		Lbs/Day	
ROG	2.5	or	185	Requires CBACT[2]
	6.0			Requires CBACT plus further mitigation, including emission offsets
NO_X	2.5	or	185	Requires CBACT
	6.0			Requires CBACT plus further mitigation, including emission offsets
PM_{10}	2.5			Any project with a grading area greater than 4.0 acres of continuously worked area will exceed the 2.5-ton PM_{10} quarterly threshold. Combustion emissions should also be calculated based on the amount of cut and fill expected.

[1] Thresholds were approximated using the screening level emission rates from the APCD CEQA Handbook, Table 6-2. Daily emission thresholds are based upon the level of daily emissions that may result in a short-term exceedance of the ozone standard.

[2] CBACT = Best Available Control Technology for construction equipment.

Projects in the SCCAB with construction-related emissions that exceed any of the emission thresholds (daily or quarterly) above are considered significant by the APCD. For purposes of this analysis, a PM_{10} threshold of 75 lbs/day has been calculated, using three months per quarter and 22 days per month.

Thresholds for Long-Term Operational Emissions. The threshold criteria established by the district to determine the significance and appropriate mitigation level for long-term emissions from a project are presented in Table V.D-4. Emissions that equal or exceed the designated threshold levels are considered potentially significant and should be mitigated.

Table V.D-4: Thresholds of Significance for Operational Emissions Impacts

Pollutant		Tier 1	Tier 2	Tier 3
ROG, NO_X, SO_2, PM_{10}	< 10 lbs/day	10 lbs/day	25 lbs/day	25 tons/year
CO	< 550 lbs/day		550 lbs/day	
Significance	Insignificant	Potentially Significant Impacts	Significant Impacts	Significant Impacts

3. Project Impacts

Air quality impacts are measured on a short-term and a long-term basis. Short-term or temporary impacts are generally the result of grading and construction activities. Long-term impacts are considered to be those project related air quality impacts which occur once the proposed project is operational.

Short-Term Air Quality Impacts. Use of heavy equipment and earth moving operations during project construction can generate fugitive dust and combustion emissions that may have substantial temporary impacts on local air quality. Fugitive dust emissions results from land clearing, demolition, ground excavation, cut and fill operations and equipment traffic over temporary roads at the construction site. Combustion emissions, such as NO_x and diesel particulate matter (diesel PM), are most significant when using large, diesel-fueled scrapers, loaders, dozers, haul trucks, compressors, generators, and other heavy equipment. Emissions can vary substantially from day to day depending on the level of activity, the specific type of operation, and the prevailing weather conditions.

Construction Equipment Exhaust Emissions. Currently, a specific schedule for project construction operations is not yet available. Therefore, the construction emissions estimates summarized in Table V.D-5 were based on projects similar to the proposed project. Emissions shown in the table assumed a peak day operation.

The APCD has established emissions thresholds for construction activities associated with a proposed project. Construction equipment emissions would not exceed the daily thresholds for any of the criteria pollutants: NO_X, ROG, CO, SO_X and PM_{10}. Therefore, short-term air quality impacts associated with project construction will be less than significant.

Fugitive Dust. PM_{10} emissions from site clearance/grading operations during a peak construction day are based on assumptions and past experience on similar sized projects. The entire site is not expected to be under construction at one time. It is assumed that up to three acres of land would be under construction or exposed at any point in time. APCD states that any project with a grading area greater than four acres of continuously worked area will exceed the 2.5 tons/quarter PM_{10} threshold. Additionally, the project is underlain by medium to fine grained, well sorted sand that is less subject to dust emissions than typical soils. Therefore, with the implementation of the Best Available Control Technology for construction equipment (CBACT), as outlined in Standard Conditions D1 through D-15, the project's impact will be less than significant.

Table V.D-5: Daily Construction Equipment Exhaust Emissions

Number and Equipment Type[1]	No. of Hours in Operation[2]	Pollutants (lbs./day)				
		CO	ROG	NO_X	SO_X	PM_{10}
2 Tracked Loader	8	3.2	1.6	13.2	1.2	1.0
2 Tracked Tractor	8	5.6	1.0	20.2	2.2	1.8
2 Scraper	8	20.2	4.6	61.4	7.4	6.4
1 Roller	8	2.4	0.5	6.9	0.5	0.4
2 Motor Graders	8	2.4	0.6	11.4	1.4	1.0
2 Miscellaneous	8	10.8	2.4	27.1	2.3	2.2
24 Construction Worker Trips	80.5 k (50 mi)/RT[3]	10.3	1.9	3.3	0.6	1.2
TOTAL		54.9	12.6	143.5	15.6	14.0
APCD Threshold		N/A	185	185	N/A	75
Exceed APCD Threshold?			NO	NO		NO

Source: LSA Associates, Inc. 2004.

1 Emission factors provided in EPA, AP-42, Volume II.

2 This assumes an eight hour work day within the window of construction hours (7 a.m. to 9 p.m.)

3 RT: Round-trip

Naturally Occurring Asbestos. The project is located in San Luis Obispo County, which is among the counties listed as containing serpentine and ultramafic rock. Although a general location guide[1] shows no areas of naturally occurring asbestos (NOA) in the project vicinity, there is a potential for it to occur there; recent construction activities have encountered NOA in areas where the general location guide indicated there would not be any. Because of this, testing for NOA prior to construction will be necessary (See Mitigation Measure D-2). In the event that ultramafic or asbestos containing materials is not discovered during pre-construction testing but is discovered during construction activities, the County shall comply with all requirements outlined in the Asbestos Airborne Toxic Control Measures for Construction, Grading, Quarrying and Surface Mining Operations. These requirements may include, but are not limited to preparation of: 1) an Asbestos Dust Mitigation Plan that shall be approved by the APCD before construction begins, and 2) an Asbestos Health and Safety Program in accordance with the California Air Resources Board Regulations. Therefore, NOA impact during project construction would be less than significant.

Long-Term Air Quality Impacts. Long-term impacts are projected-related air quality impacts that occur once the proposed project is operational. The proposed project is projected to have beneficial long-term effects on air quality since it will improve traffic flow and reduce delay and congestion.

1 A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos, Department of Conservation, Division of Mines and Geology, State of California, August, 2000. (ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/ofr_2000-019.pdf)

Carbon Monoxide (CO) Hot Spots. The primary mobile source pollutant of local concern is CO, which is used as an indicator of a project's direct and indirect impact on local air quality because it is a direct function of vehicle idling time and traffic flow conditions. Under normal meteorological conditions, CO disperses rapidly with distance from the source. However, CO does not readily disperse in the local environment in cool weather when the wind is fairly still. Under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, school children, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. The highest CO concentrations would occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis.

The impact on local CO levels in the project area was assessed with the ARB approved CALINE4 air quality model, which allows microscale CO concentrations to be estimated along roadway corridors or near intersections. This model is designed to identify localized concentrations of carbon monoxide, often termed "hot spots." Modeling of the CO hot spot analysis was based on traffic volumes generated by the project traffic study (Fehr & Peers Associates, Inc., July 2004[2]) that identified the peak traffic levels generated in the project area for the years 2003 and 2030. The analysis was performed for the worst-case wind angle and wind speed conditions. The assumptions underlying the CALINE4 model can be found in Appendix D, page 22.

The data in Tables V.D-6 and V.D-7 show the projected CO levels for the 2003 existing year and 2030 build out conditions respectively during the weekday p.m. peak hour. The table presents the highest four CO concentrations measured at each intersection during a one-hour and eight-hour period. In no instance is the State or federal CO standard for the one-hour or the eight-hour durations exceeded. As no CO levels would exceed the federal and State one-hour and eight-hour standards, no CO hot spots would occur as a result of the proposed project.

Diesel Toxics Analysis. Exhaust from diesel engines is a major source of small airborne particles. California's Office of Environmental Health Hazard Assessment (OEHHA) has determined that long-term exposure to diesel exhaust particulate poses the highest cancer risk of any toxic air contaminant it has evaluated. Fortunately, improvements to diesel fuel and diesel engines have already reduced emissions of some of the pollutants associated with diesel exhaust. California's ARB has developed a Diesel Risk Reduction Plan which, when fully implemented, will result in a 75 percent reduction in particle emissions from diesel equipment by 2010 (compared to 2000 levels) and an 85 percent reduction by 2020.

It is not expected that implementation of this project will cause a significant increase in toxic air constituents. Since motor vehicles produce more exhaust per mile at slower speeds, and since this project will reduce traffic slow-downs, the effect of this project should be to reduce emissions per mile and therefore exposure of the population to toxic constituents from vehicle exhaust.

Air Quality Management Plan Consistency Analysis. The CAP describes air pollution control strategies to be taken by counties or regions classified as non-attainment areas. The CAP's main

[2] This traffic report has since been updated as of December 2004 with minor revisions. However, the revisions do not change the results of this analysis.

purpose is to bring the area into compliance with the requirements of federal and State air quality standards. The CAP uses the assumptions and projections by local planning agencies to determine control strategies for regional compliance status. Therefore, any projects causing a significant impact on air quality would impede the progress of the CAP. For a project in the SCCAB to be consistent with the CAP, the pollutants emitted from the project must not exceed the APCD significance threshold or cause a significant impact on air quality. Where standard conditions or mitigation measures can be implemented to reduce the project's impact level from significant to less than significant under CEQA, the project is considered to be consistent with the CAP.

A consistency analysis determination plays an essential role in local agency project review by linking local planning and unique individual projects to the CAP in the following ways: it fulfills the CEQA goal of fully informing local agency decision makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are fully addressed, and it provides the local agency with ongoing information, assuring local decision makers that the project is making real contributions to clean air goals defined in the most current CAP (adopted in 1991 and updated in 1995, 1998 and 2001). Because the CAP is based on projections from local General Plans, projects consistent with the local General Plan are considered consistent with the CAP.

Air quality models are used to demonstrate that the project's emissions will not contribute to the deterioration or impede the progress of air quality goals stated in the CAP. The air quality models use project-specific data to estimate the quantity of pollutants generated from the implementation of a project. The results for the No Project and the Proposed Project scenarios in the horizon year are compared to the CAP's air quality projections.

As shown in Table V.D-7, the proposed project will not significantly contribute to or cause deterioration of existing air quality; therefore, mitigation measures are not required for the long-term operation of the project. Hence, the proposed project is considered to be consistent with the County of San Luis Obispo's General Plan and the SLOCOG forecast, and is therefore consistent with the CAP.

Table V.D-6: Existing CO Concentrations, P.M Peak Hour*

Intersection	Receptor Distance to Road Centerline (Meters)	One-Hour CO Concentration (ppm)	Eight-Hour CO Concentration (ppm)	Exceeds State Standards	
				1-Hr	8-Hr
SB 101 & Los Berros Rd.	10	4.2	2.5	No	No
	10	4.2	2.5	No	No
	8	4.1	2.5	No	No
	8	4.1	2.5	No	No
NB 101 & Los Berros Rd.	10	4.1	2.5	No	No
	10	4.0	2.4	No	No
	8	4.0	2.4	No	No
	8	4.0	2.4	No	No
Pomeroy Rd. & Willow Rd.	8	4.1	2.5	No	No
	8	4.1	2.5	No	No
	8	3.9	2.3	No	No
	8	3.9	2.3	No	No
Hetrick Ave. & Willow Rd.	8	3.5	2.0	No	No
	8	3.5	2.0	No	No
	8	3.5	2.0	No	No
	8	3.5	2.0	No	No
SB 101 Off/S. Frontage Rd. & Tefft St.	14	5.9	3.7	No	No
	14	5.6	3.5	No	No
	10	5.6	3.5	No	No
	10	5.6	3.5	No	No
SB 101 On & Tefft St.	10	5.5	3.4	No	No
	10	5.4	3.4	No	No
	10	5.3	3.3	No	No
	10	5.3	3.3	No	No
NB 101 & Tefft St.	14	5.0	3.1	No	No
	10	4.9	3.0	No	No
	10	4.9	3.0	No	No
	10	4.8	3.0	No	No

Source: LSA Associates, Inc. (2003).

NOTE: Includes ambient 1-hour concentration of 3.3 ppm and ambient 8-hour concentration of 1.9 ppm. Measured at the Santa Maria, 906 S Broadway, AQ Station (Santa Barbara County).

* The Table presents the highest four CO concentrations measured at each intersection during a one-hour and eight-hour period.

Table V.D-7: Build-Out (2030) CO Concentrations without/with Proposed Project, P.M. Peak Hour

Intersection	Receptor Distance to Road Centerline (Meters)	Project Related Increase 1-hr/8-hr (ppm)	One-Hour CO Concentration (ppm)	Eight-Hour CO Concentration (ppm)	Exceeds State Standards	
					1-Hr	8-Hr
SB 101 & Los Berros Rd.	10	-0.2/-0.2	3.8/3.6	2.3/2.1	No	No
	10	-0.2/-0.2	3.8/3.6	2.3/2.1	No	No
	8	-0.2/-0.2	3.8/3.6	2.3/2.1	No	No
	8	-0.2/-0.2	3.8/3.6	2.3/2.1	No	No
NB 101 & Los Berros Rd.	10	0.0/0.0	3.7/3.7	2.2/2.2	No	No
	10	-0.1/-0.1	3.7/3.6	2.2/2.1	No	No
	8	-0.1/-0.1	3.7/3.6	2.2/2.1	No	No
	8	-0.1/-0.1	3.7/3.6	2.2/2.1	No	No
Pomeroy Rd. & Willow Rd.	8	-0.1/-0.1	3.6/3.5	2.1/2.0	No	No
	8	-0.1/-0.1	3.6/3.5	2.1/2.0	No	No
	8	-0.1/-0.1	3.6/3.5	2.1/2.0	No	No
	8	0.0/0.0	3.5/3.5	2.0/2.0	No	No
Hetrick Ave. & Willow Rd.	8	0.2/0.1	3.3/3.5	1.9/2.0	No	No
	8	0.2/0.1	3.3/3.5	1.9/2.0	No	No
	8	0.2/0.1	3.3/3.5	1.9/2.0	No	No
	8	0.2/0.1	3.3/3.5	1.9/2.0	No	No
N. Frontage Rd. & Willow Rd.	8	0.3/0.2	3.3/3.6	1.9/2.1	No	No
	8	0.2/0.1	3.3/3.5	1.9/2.0	No	No
	8	0.2/0.1	3.3/3.5	1.9/2.0	No	No
	8	0.2/0.1	3.3/3.5	1.9/2.0	No	No
SB 101 & Willow Rd.	12	0.2/0.1	3.3/3.5	1.9/2.0	No	No
	12	0.2/0.1	3.3/3.5	1.9/2.0	No	No
	12	0.2/0.1	3.3/3.5	1.9/2.0	No	No
	12	0.2/0.1	3.3/3.5	1.9/2.0	No	No
NB 101 & Willow Rd.	12	0.1/0.1	3.3/3.4	1.9/2.0	No	No
	12	0.1/0.1	3.3/3.4	1.9/2.0	No	No
	12	0.1/0.1	3.3/3.4	1.9/2.0	No	No
	12	0.1/0.1	3.3/3.4	1.9/2.0	No	No
Thompson Ave. & Willow Rd.	8	0.2/0.1	3.3/3.5	1.9/2.0	No	No
	8	0.2/0.1	3.3/3.5	1.9/2.0	No	No
	8	0.2/0.1	3.3/3.5	1.9/2.0	No	No
	8	0.2/0.1	3.3/3.5	1.9/2.0	No	No
SB 101 Off/S. Frontage Rd. & Tefft St.	14	-0.1/0.0	4.2/4.1	2.5/2.5	No	No
	14	-0.1/0.0	4.2/4.1	2.5/2.5	No	No
	10	-0.2/-0.1	4.2/4.0	2.5/2.4	No	No
	10	-0.2/-0.1	4.2/4.0	2.5/2.4	No	No
SB 101 On & Tefft St.	14	-0.2/-0.2	4.1/3.9	2.5/2.3	No	No
	14	-0.1/-0.1	4.0/3.9	2.4/2.3	No	No
	10	-0.1/-0.1	4.0/3.9	2.4/2.3	No	No
	10	-0.1/-0.1	4.0/3.9	2.4/2.3	No	No
NB 101 & Tefft St.	14	-0.2/-0.1	4.0/3.8	2.4/2.3	No	No
	10	-0.1/0.0	3.9/3.8	2.3/2.3	No	No
	10	-0.1/0.0	3.9/3.8	2.3/2.3	No	No
	10	-0.1/0.0	3.9/3.8	2.3/2.3	No	No

Source: LSA Associates, Inc. (2003).

NOTE: Includes ambient 1-hour concentration of 3.3 ppm and ambient 8-hour concentration of 1.9 ppm. Measured at the Santa Maria, 906 S Broadway, AQ Station (Santa Barbara County).

4. Cumulative Impacts

The proposed Willow Road Extension, US 101 Interchange project is one of more than two dozen public works and private development projects proposed within the general project area. A majority of these projects have already been approved and are primarily residential subdivisions (see Figure IV, Cumulative Projects). Completion of the proposed project will result in the redistribution of automobile traffic on local and regional roadways. This redistribution could incrementally change air quality levels in specific areas where new development is clustered. Since the air quality analysis is based on the year 2030 traffic volume forecasts, which include these future development projects, the air quality analysis reflects the cumulative condition.

As previously discussed, at the regional level, future levels of pollutant generation associated with automobile traffic will be reduced over the long-term. This is due to several factors: (a) the fact that the proposed project does not generate, but instead redistributes, automobile traffic within the project area; (b) this redistribution of traffic will result in more efficient automobile circulation and reduced congestion; and (c) vehicular emissions factors are projected to decrease steadily up to the year 2010. Therefore, the completion of the proposed cumulative projects should not add appreciable quantities of pollutants to the regional airshed. Therefore, the proposed project will have a less than significant contribution to the cumulative impact on the region's air quality conditions.

5. Air Quality Standard Conditions

The County shall ensure that the construction contractor implements the following standard conditions to reduce or minimize air pollutants generated by project construction activities, including vehicle and equipment exhaust.

D-1, APCD Asphalt Paving Regulations. The construction contractor shall adhere to the requirements of APCD rules and regulations on cutback and emulsified asphalt paving materials. Prior to application, the County shall contact APCD for verification.

D-2, Pre-Construction Asbestos Detection Program. Prior to the start of any construction activities, the County shall conduct borings in the project area to test for the occurrence of ultramafic or asbestos containing materials. In the event that ultramafic or asbestos containing materials are discovered, the County shall comply with all requirements outlined in the Asbestos ATCM for Construction, Grading, Quarrying and Surface Mining Operations. These requirements may include, but are not limited to preparation of: 1) an Asbestos Dust Mitigation Plan that shall be approved by the APCD before construction begins, and 2) an Asbestos Health and Safety Program in accordance with the California Air Resources Board regulations. This program shall be prepared and reviewed as part of the final plan check. This condition shall be included in the construction plan specifications.

D-3, Procedure for Handling Unanticipated Discoveries of Asbestos. In the event of the discovery of ultramafic or asbestos containing materials during construction, construction operations in the affected area should cease immediately and the County shall comply with all requirements outlined in the Asbestos ATCM for Construction, Grading, Quarrying and Surface Mining Operations. These requirements may include, but are not limited to preparation of: 1) an Asbestos Dust Mitigation Plan that shall be approved by the APCD before construction gets back underway, and 2) an Asbestos Health and Safety Program in accordance with the California Air Resources Board regulations. This

program shall be prepared and reviewed as part of the final plan check. This condition shall be included in the construction plan specifications.

D-4, ARB Certified Equipment. Maximize to the extent feasible the use of diesel construction equipment meeting the ARB's 1996 or newer certification standard for off-road heavy-duty diesel engines during any construction activities. This condition shall be included in the construction plan specifications.

D-5, Installation of Emission Reduction Devices. The contractors shall install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF), or other District-approved emission-reduction retrofit devices prior to construction activities. The ARB has recently verified DOC and CDPF systems for HD diesel vehicles. DOCs have control efficiencies on the order of 25 percent, while CDPFs can achieve diesel PM reductions of 85 percent or better. In general, DOCs are effective at reducing the fine particle component, while CDPFs are effective at reducing both the fine particle and larger black soot components. Manufacturer data indicates that both types of devices can reduce about 90 percent of CO emissions and 50 to 70 percent of ROG emissions, some being a portion of the diesel PM component. Some devices/systems are being developed that have the added benefit of being able to reduce NOx emissions. Determination of the appropriate CBACT control device(s) for the project must be performed in consultation with APCD staff. This condition shall be included in the construction plan specifications.

D-6, Construction Activity Management Plan. The contractor shall develop a comprehensive construction activity management plan designed to minimize the amount of large construction equipment operating during any given time period prior to construction activities. This condition shall be included in the construction plan specifications.

D-7, Construction Truck Trips. The contractor shall schedule construction truck trips during non-peak hours to reduce peak hour emissions prior to and during any construction activities. This condition shall be included in the construction plan specifications.

D-8, Construction Work-Day. The County shall limit the length of the construction work-day period, if necessary. This condition shall be included in the construction plan specifications.

D-9, Construction Phasing. The County shall phase construction activities, if appropriate so that fugitive dust and other emissions being generated do not exceed daily thresholds. Construction phasing shall be planned and reviewed as part of the final design.

D-10, PM_{10} and Dust Emissions Reduction. Proper implementation of the following measures during construction activities will achieve a significant reduction in PM_{10} emissions. All PM_{10} mitigation measures required shall be included on grading and building plans. In addition, the contractor must designate a monitor for the dust control program and order increased watering, as necessary, to prevent transport of dust off site. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to land use clearance for map recordation and land use clearance for finish grading of the structure.

a. Reduce the amount of the disturbed area where possible.

b. Use water trucks or sprinkler systems to prevent airborne dust from leaving the site. Increase watering frequency whenever wind speed exceeds 15 mph. Reclaimed (nonpotable) water should be used whenever possible.

c. Spray all dirt stock-pile areas daily as needed.

d. Implement permanent dust control measures identified in the approved project revegetation and landscape plans as soon as possible following completion of any soil-disturbing activities.

e. Sow exposed ground areas that are planned to be reworked at dates more than one month after initial grading with a fast-germinating native grass seed, and water until vegetation is established.

f. Stabilize all disturbed soil areas not subject to revegetation using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD.

g. Complete all roadways, driveways, sidewalks, etc., to be paved as soon as possible. In addition, lay building pads as soon as possible after grading unless seeding or soil binders are used.

h. Construction vehicles shall not exceed a speed of 15 mph on any unpaved surface at the construction site. APCD CEQA Air Quality Handbook 2003

i. Cover trucks hauling dirt, sand, soil, or other loose materials or maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.

j. Install wheel washers where vehicles enter and exit unpaved roads, or wash off trucks and equipment leaving the site.

k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Use water sweepers with reclaimed water where feasible.

The construction contractor shall adhere to the requirements of APCD CEQA Air Quality Handbook to reduce fugitive dust emissions. The Best Available Control Technologies for construction equipment (CBACT) shall be adhered to during the project construction.

D-11, Well -Tuned, Efficient Equipment. Prior approval of any grading permits, the construction contractor shall select the construction equipment used on site based on low emission factors and high energy efficiency. The contractor shall also ensure that all construction equipment is maintained in proper tune according to manufacturer's specification prior to and during any construction activities. The County shall ensure that construction grading plans include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer's specifications.

D-12, Alternative-Fuel-Powered Equipment. The construction contractor shall utilize electric or alternative-fuel powered equipment in lieu of gasoline and diesel powered engines where feasible during construction activities. This condition shall be included in the construction plan specifications.

D-13, ARB-Certified Fuel. The contractor shall ensure that all off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, are powered with ARB-certified motor vehicle

diesel fuel (non-taxed version suitable for off-road use) during any construction activities. This condition shall be included in the construction plan specifications.

D-14, Equipment Shut Off. Prior to approval of grading permits, the construction contractor shall ensure that construction grading plans include a statement that work crews will shut off equipment when not in use. This condition shall be included in the construction plan specifications.

D-15, Construction Timing. During construction activities, the construction contractor shall time the construction activities so as not to interfere with peak hour traffic and to minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flag-person shall be retained to maintain safety adjacent to existing roadways. This condition shall be included in the construction plan specifications.

D-16, Ridesharing. The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew during construction activities. This condition shall be included in the construction plan specifications.

The following standard conditions for construction equipment are recommended but are not mandatory.

- Electrify equipment where feasible.
- Substitute gasoline-powered for diesel-powered equipment, where feasible.
- Use equipment that has Caterpillar pre-chamber diesel engines.
- Implement activity management techniques as described in Section 6.4, pages B-2 and B-3 in Appendix D (Air Quality Assessment).

6. Residual Impacts

Implementation of the above prescribed standard conditions will ensure that the project's short-term impacts will be reduced to less than significant.

Long-term air quality impacts on both a local and regional level will benefit from the improved traffic circulation and reduced traffic congestion associated with the proposed project. As stated above, because the long-term operation of the proposed project will not significantly contribute to or cause deterioration of existing air quality, no long-term mitigation measures are required. Consequently, the proposed project is considered to be consistent with the County of San Luis Obispo's General Plan and the SLOCOG forecast, and is therefore consistent with the CAP.

V.E. PUBLIC SERVICES

This section summarizes the findings presented in Chapter V.E of the Willow Road/Highway 101 Interchange Final Environmental Impact Report, prepared by Douglas Wood & Associates, Inc. (March 1999: pp. V70-V75). This EIR incorporates the previous study by reference per the CEQA Guidelines, Section 15150, and updates the information as applicable. In addition, discussion of potential impacts from solid waste generation during construction has been included.

1. Existing Conditions

Police Protection. The County of San Luis Obispo Sheriff's Department provides law enforcement services to the project area through their Oceano substation. Traffic enforcement is provided by the California Highway Patrol. Emergency response times are usually between three and five minutes since the Sheriff's Department generally maintains a patrol car in the Nipomo area. If there is not a patrol car in Nipomo, response times can exceed 10 minutes.

Fire Protection. The California Department of Forestry/San Luis Obispo County Fire Department provides fire protection and emergency response services for the Nipomo area. The Nipomo Station 20 would be the first to participate in any fire or emergency. The project area is also served by the Mesa Station 22 in Arroyo Grande. Due to an "automatic aid" agreement, medical aid calls may also be answered by the California Department of Forestry/San Luis Obispo County Fire Department.

Public Utilities. The Nipomo area is served by the Southern California Gas Company for natural gas service and Pacific Gas and Electric for electrical service. The Nipomo Community Services District (CSD) provides water and wastewater services within their boundaries. Other water companies or on-site wells provide water outside of CSD boundaries. On-site septic systems or small package treatment plants exist outside the CSD boundary for wastewater. Telephone and cable television services are provided by Pacific Bell and Charter Communications respectively. Underground utilities are located throughout the project area and an overhead electric power line runs from east of Pomeroy, over US 101 and over to Thompson Avenue.

Solid Waste. The Nipomo area is served by two Integrated Waste Management Facilities, the Nipomo Transfer Station and Cold Canyon Landfill. The Nipomo Transfer Station is located one-half mile west of Highway 101, at 325 Cuyama Lane (Highway 166) in Nipomo. Waste sent to this transfer station is not sorted, but is shipped to the Chicago Grade Landfill in Atascadero. Cold Canyon Landfill is a sorting facility, which has historically recycled construction and demolition materials (i.e. concrete, unpainted wood, brick, etc.) at a rate of 72.4 percent. Cold Canyon Landfill is located about 6 miles south of the City of San Luis Obispo on Highway 227. Cold Canyon Landfill is expected to reach capacity in 2013 and accepts an average of 180,000 tons of waste per year.

2. Thresholds of Significance

Appendix G of the State CEQA guidelines and the County of San Luis Obispo Initial Study Checklist states that a project may have a potentially significant impact on public services if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the

construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for:

- Fire protection
- Police protection
- Public utilities
- Solid Waste
- Other public facilities

3. Project Impacts

Police Protection. The proposed project will lead to improved vehicular access to the Nipomo area which will assist law enforcement efforts. However, the project will also represent added patrol responsibilities, create opportunities for people to congregate, and provide a new roadway that would lead to unlit open space. According to the Sheriff's Department, the potential adverse impacts are outweighed by the benefit of improved vehicular patrol access.

Fire Protection. Improved vehicular access resulting from the proposed project will be beneficial to fire protection and emergency services. In addition, the proposed project will result in a reduction of traffic congestion, thereby reducing accident potential. However, roadways provide the opportunity for sparks and other combustibles (e.g. cigarettes) from cars which can ignite fires on the side of roadways. According to the California Department of Forestry/San Luis Obispo County Fire Department, the potential adverse impacts are outweighed by the benefit of improved fire protection access, emergency response, and traffic safety.

Public Utilities. The proposed project will only utilize roadway lighting at intersections and the US 101 interchange. The additional energy consumption for this lighting is considered minimal and will not cause a significant impact. No other utilities, such as gas lines, water lines, or telephones lines, will be needed. Therefore, the only long-term increase in utility usage will be related to roadway and intersection lighting.

Construction, however, has the potential to disturb underground natural gas and/or electrical service mains, water or sewer mains, and telephone or cable television lines.

Solid Waste. The proposed project will involve the breakup and removal of certain construction and demolition materials, such as asphalt, as well as cut soil from construction and grading activities. It is likely that an estimated 420,710 cubic feet of asphalt generated by demolition activities will be recycled using local facilities. The County diversion goal for construction debris materials is 50 percent, thereby reducing the volume of waste that is transported to a landfill. The proposed project is expected to substantially exceed this diversion goal by transporting these materials to a local asphalt recycler. For example, Troesh Ready Mix, located in Nipomo accepts construction and demolition materials, recycles at 100 percent, and converts all recycled materials into Class II road sub-base. The sub-base produced by these recycled materials meets Caltrans standards. Therefore, construction debris generated by the proposed project will be recycled at close to 100 percent. Excess cut soil from construction of the proposed road extension and interchange will not be transported to a landfill, but

will be stockpiled at a site near the project area for use on other County projects. The County will review potential stockpile sites to ensure that no sensitive resources would be impacted or other environmental impacts would result from soil stockpiling.

Since construction and demolition materials will be recycled, and the excess soil associated with construction of the proposed project will not be transported to a landfill, solid waste impacts to local waste management facilities are expected to be less than significant.

4. Cumulative Impacts

Chapter IV, Section B, Cumulative Projects, identifies 27 projects in the vicinity of the Willow Road Extension/US 101 Interchange project. The majority of these projects include the construction of residences which would increase the population in the area, thereby increasing the need for public services. Although the proposed project also represents a minor incremental increase in the demand for police protection services, fire protection, and emergency response services, potential adverse impacts are outweighed by the benefit of improved vehicular patrol access, fire protection access, emergency response, and traffic safety. Therefore, the project does not add significantly to cumulative impacts on public services.

Since no gas lines, water lines, or telephones lines, will be needed and additional energy consumption for roadway and intersection lighting is considered minimal and not significant. Therefore, the Willow Road Extension/US 101 Interchange project will not contribute to a cumulative impact on utilities.

Solid Waste. Project-generated construction debris shall be recycled at close to 100 percent and excess cut soil from construction of the proposed project will be stockpiled at a location near the project area for use on other County projects. Therefore, the project's contribution to the combined impacts from other cumulative projects in the region to County landfill capacity and operations will be less than significant.

5. Mitigation Measures

E-1, Emergency Access. The San Luis Obispo County Sheriff's Department shall review final project design plans of all project facilities and shall advise the County Public Works Department as to adequate emergency access and surveillance needs for Sheriff patrol cars. The County Public Works Department shall submit the final design plans to the Sheriff's Department prior to approval of final project design plans.

E-2, Fuel Reduction. Prior to the approval of final project design plans of all project facilities, a Fuel Reduction Plan shall be submitted to the San Luis Obispo County Fire Department by the County Public Works Department for review and approval. This plan will provide for adequate brush clearance and vegetation removal pursuant to Fire Department and California Department of Forestry standards while preserving as much of the natural habitat as possible. This plan shall also provide a long-term maintenance program for these cleared areas.

E-3, Existing Service Mains. The County Department of Public Works shall submit the final project design plans to the Southern California Gas Company, Pacific Gas and Electric Company, the Nipomo Community Services District, Pacific Bell, State of California, Department of Water Resources and the local cable television provider for review no less than 90 days prior to construction in order to identify the location of existing service mains, provide for and necessary relocation of facilities and prevent any unexpected service interruptions.

E-4, Construction Notification. The County Department of Public Works shall ensure that all project plans and specifications include the following note: "Please telephone Underground Service Alert (USA) toll free at 1-800-642-2444 forty-eight hours prior to the start of construction. For best response, provide as much notice as possible, up to ten working days". This notification will allow adequate time to locate and mark existing utility facilities.

The following measure is prescribed in order to prevent environmental impacts to potential soil stockpiling sites.

E-5, Stockpiling of Cut Soils. Prior to stockpiling of soil from project generated activities, the County Department of Public Works shall ensure that a designated soil stockpile location will be reviewed for sensitive resources prior to placement of any soils.

6. Residual Impacts

Implementation of the mitigation measures described above will reduce potential impacts to police protection services, fire protection, emergency response services, and public utilities to less than significant levels. In addition, improved vehicular access to the Nipomo area will assist law enforcement, fire protection, and emergency response services. Potentially adverse effects are outweighed by these project related benefits. Application of the County's standard recycling procedures for construction debris (construction and demolition materials) and use of local recycling facilities will ensure that no amount of project material is deposited at the County landfills. No excess soil from grading operations will be placed in area landfills, but rather reused by other local construction projects. Therefore, the potential effects on landfill operations and capacity will be less than significant.

V.F. BIOLOGICAL RESOURCES

This section addresses potential impacts to biological resources resulting from implementation of the proposed project. The *Biological Resources Assessment: Willow Road Extension/US 101 Interchange Project* (July 2005), the *Wetlands Delineation Report* (Volume III, Appendix E), and the *Red Legged Frog Site Assessment* (Volume III, Appendix F), were reviewed and incorporated into this analysis. These documents, in their entirety, are provided in Appendix E.

1. Existing Conditions

The project area is a mix of native habitats, agricultural uses, such as grazing, nursery activities, and crop cultivation and developed areas such as roads or houses. Disturbances from grazing activities, agricultural and nursery activities, as well as maintenance activities associated with residences such as landscaping, firebreaks, mowing, disking, and domestic animals are evident within the project area.

Plant Communities and Habitat Types. The vegetation in the project area is a mosaic of several typical habitat types. Seventeen plant communities, or variations, were identified within the project area, including four primary plant communities considered sensitive by state and/or local agencies: oak woodland, maritime chaparral, willow riparian, and freshwater marsh.

In addition to these native and naturalized plant communities, ornamental plantings, eucalyptus groves, and developed and/or disturbed areas were also identified. All of these areas are illustrated on the vegetation communities map (Figure V.F-1). Table V.F-1 provides the acreage of each community type found in the project area. A list of plant species observed, along with their scientific names, during the surveys is presented in Appendix C of the Biological Resources Analysis, which is provided in Appendix E of this SEIR.

The total project area, which is approximately 40 hectares (100 acres), supports 17 basic habitat types. Due to various levels and timing of disturbances within the study area, these habitat types are further distinguished as mixed or ecotones (Figure V.F-1). Mixed habitats types are a combination of two different habitat types, whereas ecotones are transitional habitat types. The dominant natural habitat within the study area is oak woodland (14.69 acres). Other plant communities present within the study area include annual grassland, maritime chaparral, ruderal herbaceous, agriculture, coastal sage scrub, freshwater marsh, willow riparian, eucalyptus groves, and ornamental landscaping. Each habitat type is described in detail below.

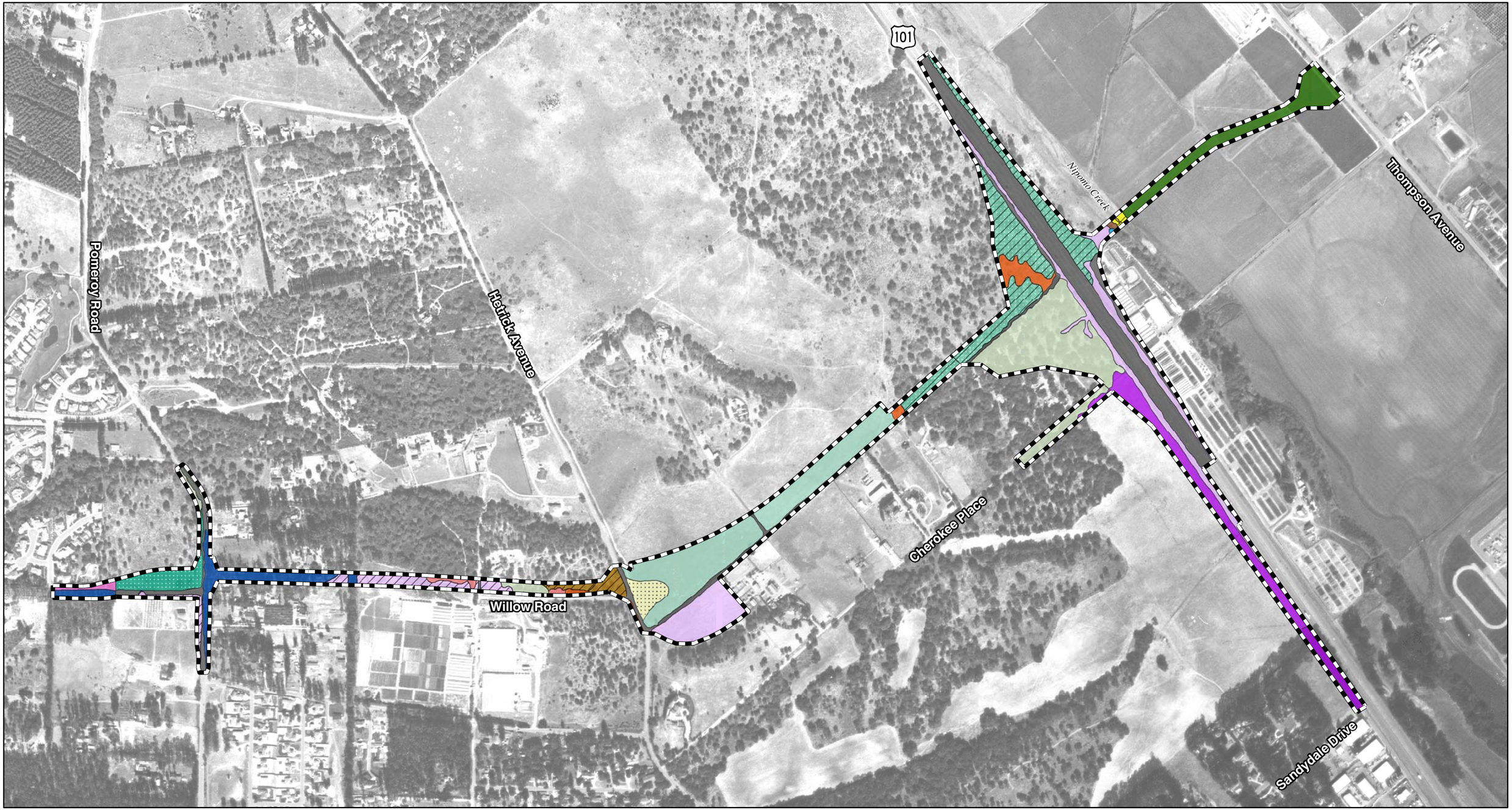

FIGURE V.F-1

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LEGEND

- Project Boundary
- Disturbed Vegetation
- AG/MC ecotone
- AG/Ruderal
- Agriculture (Crops)
- Annual Grassland (AG)
- CSS/AG ecotone
- Developed Areas
- Eucalyptus Grove
- Freshwater Marsh
- Maritime Chaparral (MC)
- Mixed OW/MC
- OW/MC ecotone
- Oak Savannah
- Oak Woodland (OW)
- Ornamental Landscaping
- Ruderal
- Ruderal Herbaceous
- Willow Riparian

Willow Road Extension/U.S. 101 Interchange Project
Vegetation Communities

SOURCE: County of San Luis Obispo.

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Table V.F-1: Existing Vegetation Communities within the Project Area

Vegetation Community	Abbreviation	Total Hectares (Acres)
Developed Areas (roads)		7.22 (17.84)
Oak Woodland	OW	5.95 (14.69)
Disturbed Oak Savannah		0.56 (1.38)
Annual Grassland	AG	4.49 (11.09)
Disturbed Annual Grassland		1.47 (3.62)
Maritime Chaparral	MC	0.81 (2.00)
Annual Grassland/Maritime Chaparral ecotone	AG/MC ecotone	1.07 (2.65)
Mixed Oak Woodland/Maritime Chaparral	Mixed OW/MC	0.23 (0.56)
Disturbed Oak Woodland/Maritime Chaparral ecotone	OW/MC ecotone	4.93 (12.17)
Ruderal Herbaceous		2.86 (7.09)
Disturbed Ruderal		0.10 (0.25)
Annual Grassland/Ruderal	AG/Ruderal	5.59 (13.82)
Agriculture (Crops)		2.48 (6.14)
Coastal Sage Scrub/Annual Grassland ecotone	CSS/AG ecotone	0.58 (1.43)
Freshwater Marsh		0.04 (0.11)
Willow Riparian		0.02 (0.05)
Eucalyptus Grove		1.89 (6.20)
Ornamental Landscaping		0.17 (0.43)
TOTAL		**40.47 (100.0)**

Developed (7.22 Hectares [17.84 Acres]). This habitat consists of the existing paved and graded dirt roads throughout the project area.

Oak Woodland (5.95 Hectares [14.69 Acres]). This habitat type, which occurs in the southwest corner of the proposed Willow Road and US 101 interchange, is dominated by a dense coast live oak *(Quercus agrifolia)* canopy. There are scattered native shrubs such as coast ceanothus *(Ceanothus cuneatus* var. *fascicularis),* Nipomo ceanothus *(Ceanothus impressus* var. *nipomensis),* California coffee berry *(Rhamnus californica* ssp. *californica),* and poison oak *(Toxicodendron diversilobum).* The understory is typically annual grassland or ruderal with wild oat (*Avena* sp.), long-beaked filaree *(Erodium botrys),* telegraph weed *(Heterotheca grandiflora)* and California croton *(Croton californicus).* Although this habitat has been used for grazing livestock, many oak propagules (seedlings) are present.

Disturbed Oak Savannah (0.56 Hectare [1.38 Acres]). This habitat, which occurs on the northwest corner of Willow Road and Hetrick Avenue, appears to be the result of constant land management by landowners to suppress the shrub understory beneath the coastal live oak canopy. Understory species such as chamise *(Adenostoma fasciculatum)* and poison oak are continually sprayed or mechanically removed, and annual grasses are mowed and/or disked. The nonnative grass species include veldtgrass *(Ehrharta calycina),* foxtail chess *(Bromus madritensis),* and some scattered ruderal forbs such as long-beaked filaree, field mustard *(Brassica rapa),* and telegraph weed.

Annual Grassland (4.49 Hectares [11.09 Acres]). This habitat type, which occurs along US 101, is subject to periodic disturbance from highway right-of-way maintenance activities. This habitat is dominated by nonnative veldtgrass, with some scattered ruderal herbaceous species such as telegraph weed, common catchfly *(Silene gallica),* and Douglas' annual lupine *(Lupinus nanus).*

Disturbed Annual Grassland (1.47 Hectares [3.62 Acres]). This habitat type, which is located along the existing Willow Road alignment, is similar to the annual grassland above, except it is subject to regular disturbances such as grazing, mowing, and disking. This habitat type is dominated by ripgut grass *(Bromus diandrus)* and veldtgrass, with some scattered natives such as Douglas' nightshade *(Solanum douglasii)* and coastal deerweed *(Lotus scoparius).* Other subdominant species within this habitat are smooth cat's ear *(Hypochaeris glabra),* rough cat's ear *(Hypochaeris radicata)*, telegraph weed, and long-beaked filaree.

Maritime Chaparral (0.81 Hectare [2.00 Acre]). A small area of this habitat type west of the Willow Road/Hetrick Avenue intersection has not been subject to much disturbance. This area is dominated by coast ceanothus and Nipomo ceanothus. Other subdominants include black sage *(Salvia mellifera),* bush monkey flower *(Mimulus aurantiacus),* chamise, poison oak, coyote bush *(Baccharis pilularis),* Douglas' nightshade, and chaparral nightshade *(Solanum xantii* var. *obispoense).* Herbaceous understory species include narrow-leaved spineflower *(Chorizanthe angustifolia),* California everlasting *(Gnaphalium californicum),* and milkweed (*Asclepias* sp.).

Annual Grassland/Maritime Chaparral Ecotone (1.07 Hectares [2.65 Acres]). This habitat type is located on the northwest corner of the Willow and Pomeroy Road intersection. This transitional habitat is the product of regular disturbances such as fire and disking and is a combination of annual grassland and maritime chaparral. After time, the habitat would most likely revert to maritime chaparral should the disturbances be removed.

Mixed Oak Woodland/Maritime Chaparral (0.23 Hectare [0.56 Acre]). This habitat type is a mixture of coast live oak canopy and maritime chaparral species, which include chamise, Nipomo ceanothus, black sage, and bush monkey flower. Two patches of this habitat type are located west of the Willow Road and Hetrick Avenue intersection. Herbaceous species such as tarweed *(Deinandra increscens* ssp. *increscens),* cryptantha (*Cryptantha* sp.), wedge-leaved horkelia *(Horkelia cuneata* ssp. *cuneata),* California everlasting, narrow-leaved spineflower, hooked navarretia *(Navarretia hamata),* and chaparral nightshade are scattered throughout the understory.

Disturbed Oak Woodland/Maritime Chaparral Ecotone (4.93 Hectares [12.17 Acres]). This habitat is located on both sides of US 101 within the north portion of the proposed interchange. This transitional habitat appears to be the result of previous and ongoing disturbances such as livestock grazing and disking and would most likely revert to maritime chaparral if the disturbances were removed. Beneath the sparsely scattered coast live oak trees, this habitat has a predominance of nonnative grasses that include veldtgrass and wild oat, although some scattered patches of scrub with bush monkey flower, black sage, and California buckwheat *(Eriogonum fasciculatum)* occur. In addition, the habitat includes a subdominant component of chaparral species that include coffeeberry, coast ceanothus, Nipomo ceanothus, and poison oak, all of which may give way to maritime chaparral if left undisturbed.

Ruderal Herbaceous (2.86Hectares [7.09 Acres]). This habitat type is intermixed with components of ruderal vegetation and nonnative grasses and occurs west of the US 101, south of the proposed Willow Road alignment, within the proposed frontage road alignment. This habitat type is dominated by wild oat, ripgut grass, and long-beaked filaree. Scattered occurrences of Douglas' annual lupine, as well as other nonnatives typically used for cattle grazing occur within this habitat type. The plants within this habitat type are typically nonnative, invasive annual species, and their occurrence is not necessarily limited to the ruderal habitat type, but they may occur scattered within the other habitat types within the study area. In addition, within this habitat are large populations of California spineflower *(Mucronea californica)*. Overall, the occurrence of this species is patchy throughout the field adjacent to US 101. However, this species is very common at this location and could be considered a subdominant species. The density of this species in this field was documented within the 1999 FEIR "after the hay crop had been mowed, and the field left fallow, [this area] supported large patches of California spineflower that were conspicuous from the US 101 as extensive pink patches in the mowed field." Other common species in this area include telegraph weed, California croton, common catchfly, and veldtgrass.

Disturbed Ruderal (0.10 Hectare [0.25 Acre]). This habitat type, which is within and adjacent to Nipomo Creek, is currently used for livestock grazing. The dominant species are sweet fennel *(Foeniculum vulgare),* bristly ox-tongue *(Picris echioides),* and field mustard with some annual grasses such as Italian ryegrass *(Lolium multiflorum)* and beardless wild-rye *(Elymus triticoides).*

Annual Grassland/Ruderal (5.59 Hectares [13.82 Acres]). Extensive livestock grazing in this area has produced this mixed habitat type in the field along the proposed Willow Road alignment, east of Hetrick Avenue. Dominant species within this habitat are long-beaked filaree, wild oat, and veldtgrass. Other species present in this habitat type are doveweed *(Croton setigerus),* telegraph weed, slender eriogonum *(Eriogonum gracile* var. *gracile),* ripgut grass, foxtail fescue *(Vulpia myuros),* and coastal deerweed.

Agriculture (2.48 Hectares [6.14 Acres]). The easternmost portion of the proposed alignment is either active or fallow agricultural fields dominated by agricultural crops, ruderal forbs, and nonnative grasses.

Coastal Sage Scrub/Annual Grassland Ecotone (0.58 Hectare [1.43 Acres]). This habitat occurs on the northeast corner of Willow Road and Hetrick Avenue in a field used for livestock grazing. The coastal sage scrub components within this habitat type are California sagebrush *(Artemisia californica),* mock heather *(Ericameria ericoides),* pinebush *(Ericameria pinifolia),* and coastal deerweed. The annual grassland components include veldtgrass, foxtail chess, and wild oat. Ruderal species, such as long-beaked filaree, telegraph weed, California croton, common catchfly, California filago *(Filago californica),* and field mustard also occur within this habitat type.

Freshwater Marsh (0.04 Hectare [0.11 Acre]). This habitat type occurs west of Nipomo Creek, east of US 101, and is dominated by herbaceous cover, annual grasses, and some ruderal forbs. The hydrophytic vegetation includes beardless wild-rye, common toad rush *(Juncus bufonius),* narrow-leaved cattail *(Typha angustifolia),* rabbitfoot grass *(Polypogon monspelienses),* and California dock *(Rumex salicifolius).* This habitat type appears to be supported by irrigation runoff from the adjacent plant nursery. Although separated from Nipomo Creek by a small berm, the

berm has been trampled in cattle grazing activities so that the water from the freshwater marsh flows into Nipomo Creek.

Willow Riparian (0.02 Hectare [0.05 Acre]). The willow riparian habitat within the project area occurs on the west side of the freshwater marsh associated with Nipomo Creek. It is possible that this habitat type, as with the freshwater marsh, is supported by irrigation runoff from the adjacent nursery. Mature arroyo willow *(Salix lasiolepis)* form a dense, closed overstory. Understory species include iris-leaved rush *(Juncus xiphiodes),* poison hemlock *(Conium maculatum),* Bermuda buttercup *(Oxalis pes-caprae),* Italian ryegrass, bristly ox-tongue, and rabbit foot grass. Cattle have created trails throughout this area.

Eucalyptus Grove (1.89 Hectares [4.67 Acres]). This habitat type is dominated by a eucalyptus (*Eucalyptus* sp.) tree canopy and is typically located along roadways and property lines throughout the project area. Some nonnative ruderal vegetation such as veldtgrass and California burclover *(Medicago polymorpha)* are scattered within the eucalyptus groves.

Ornamental Landscaping (0.17 Hectare [0.43 Acre]). This habitat type is located in the westernmost portion of the proposed Willow Road alignment. This area is mulched and planted with ornamental species used for landscaping.

Wildlife. The study area is characterized predominantly by disturbed/developed areas and oak woodland. Wildlife species occurring within the study area are characteristic of those found within these habitats. A list of animal species (including scientific names) observed during the reconnaissance-level surveys and focused bird surveys are provided in Appendix D of the Biological Resources Assessment (Appendix E, Volume III of this SEIR).

No species of amphibians were observed during the surveys. However, focused amphibian surveys were not conducted within the project boundaries. Amphibians that may occur on or near the site include the Pacific chorus frog *(Pseudacris regilla)*, Western toad *(Bufo boreas)*, California red-legged frog *(Rana aurora draytonii)*, and the California Tiger Salamander *(Ambystoma californiense)*.

Three reptile species were observed on site: the western fence lizard *(Sceloporus occidentalis),* side-blotched lizard *(Uta stansburiana),* and California horned lizard *(Phrynosoma coronatum frontale).* Other reptiles that may occur within the study area include western whiptail *(Cnemidophorus tigris),* southern alligator lizard *(Gerrhonotus multicarinatus),* gopher snake *(Pituophis melanoleucus),* coachwhip *(Masticophis flagellum),* common kingsnake *(Lampropeltis getulus),* and western rattlesnake *(Crotalus viridis).*

At least 26 species of birds were observed on site during the course of focused surveys. Birds observed on site within the disturbed or developed habitats during the LSA surveys were characteristic of these habitats. These include the mourning dove *(Zenaida macroura),* northern mockingbird *(Mimus polyglottos),* house finch *(Carpodacus mexicanus),* brown headed cowbird *(Molothrus ater),* and American crow *(Corvus brachyrhynchos).* Bird's species that were not observed onsite, but have the potential to occur on or near the site are discussed within the subsequent Sensitive Biological Resources section (See page V.F-12).

Annual grassland habitat located throughout the site provides suitable foraging habitat for a variety of granivorous bird species, as well as raptor species. Birds observed in the grassland habitat include the mourning dove, Cassin's kingbird *(Tyrannus vociferans),* song sparrow *(Melospiza melodia),* and California towhee *(Pipilo crissalis).* In addition to the foraging habitat provided by the annual grassland habitats, raptor species could use the oak woodland habitats within the study area for perching or nesting. Raptor species such as the turkey vulture *(Cathartes aura),* great horned owl *(Bubo virginianus),* red-tailed hawk *(Buteo jamaicensis),* and American kestrel *(Falco sparverius)* were observed either foraging over the annual grassland or perched within oak trees during the surveys. Other bird species identified within the oak woodland habitats were Nuttall's woodpecker *(Picoides nuttallii),* western wood-pewee *(Contopus sordidulus),* oak titmouse *(Baeolophus inoratus),* and bushtit *(Psaltriparus minimus).*

The riparian habitat areas include both willow riparian and freshwater marsh. Given the proximity of these two communities, they have very similar avian faunas. Typical species detected included black phoebe *(Sayornis nigricans),* common yellowthroat *(Geothlypis trichas),* and red-winged blackbird *(Agelaius phoeniceus).*

Most mammalian species observed during the surveys were located primarily within the annual grassland habitat. They include the Audubon's cottontail *(Sylvilagus auduboni),* black-tailed jackrabbit *(Lepus californicus),* dusky-footed woodrat *(Neotoma fuscipes),* broad-footed mole *(Scopanus latimanus),* and long-tailed weasel *(Mustela frenata).* Burrows from Botta's pocket gophers (*Thomomys bottae)* and the California ground squirrel *(Spermophilus beecheyi)* were also observed. All of these animals serve as prey for raptor species. Other species expected to occur, though not observed during the on-site surveys, include Virginia opossum *(Didelphis virginianus),* skunks *(Mephitis mephitis* and *Spilogale gracilis),* and raccoon *(Procyon lotor).* Mammal species associated with rural development within the study area include dog *(Canis familiaris),* cattle *(Bos bovis),* and horse *(Equus caballus).* The presence of the domestic cattle and horses grazing in various areas throughout the study area indicates regular disturbances within these areas. Bats were not observed within the project area or the vicinity during any of the surveys. However, evidence of bats was observed during subsequent site visits and the presence of oak trees and cattle-under crossing could potentially serve as bat habitats.

Wildlife Movement and Habitat Fragmentation. Large areas of habitat or narrower linkages of habitat between expanses of open space provide movement corridors for wildlife. In the vicinity of the project, there is a patchwork of native habitats, agricultural, and developed areas, with no clearly defined major wildlife corridors. In addition, the flat topography of the mesa is crisscrossed with a network of roads and fences, along with large areas of little or no vegetation for cover, which constitutes hindrances to wildlife movement. Nipomo Creek and the associated riparian vegetation may be used as a corridor for some wildlife movement. Wildlife rely on riparian/wetland habitats for their migration routes, especially as an area urbanizes. This is true with the areas surrounding Nipomo Creek.

Sensitive Biological Resources.

Sensitive Species. For purposes of this discussion, the term "sensitive species" refers to those plants and animals occurring, or potentially occurring, on the project site and designated as endangered or rare (as defined by CEQA and its Guidelines), or of current local, regional, or State

concern. These are species that are rare, locally restricted, or declining in a significant portion of their range. Inclusion in the sensitive species analysis for this property is based on satisfying at least one of the following criteria: (1) direct observation of the species on the property site during one of the biological surveys conducted for this report; (2) sighting by other qualified and reputable observers; (3) record reported by the California Natural Diversity Data Base (CNDDB); or (4) property contains appropriate habitat and is within the known range of a given species. The discussion of sensitive species observed or thought to occur at the project site is broken down into two sections: those listed as endangered or threatened by the State and/or federal agencies and those not listed as such. Plant communities/habitats of concern are considered separately. Appendix A in the Biological Resources Analysis (Appendix E of this SEIR) summarizes the status of those sensitive species known to occur or potentially occurring on the property. Figure V.F-2 shows the locations of observed sensitive plant species.

Sensitive Plant Species. No federally listed, state listed, or proposed endangered or threatened plant species were observed on the site during the surveys. The listed plant species or species proposed for listing identified in the literature review as potentially occurring on site or in the study area were:

- Pismo clarkia (Clarkia speciosa ssp. Immaculate);
- marsh sandwort (Arenaria paludicola);
- Gambel's watercress *(Rorippa gambelii);*
- La Graciosa thistle *(Cirsium loncholepis)*; and
- Nipomo Mesa lupine (Lupinus nipomensis).

The **Pismo clarkia** is federally listed as endangered and state listed as rare, and is known from fewer than 15 locations between Pismo Beach and Nipomo Mesa in a variety of habitats including chaparral and oak woodlands, as well as valley and foothill grassland. The literature search identified reported occurrences of this species near the intersection of Pomeroy and Willow Roads (the westernmost portion of the proposed project area). Pismo clarkia was not observed within the project area at the time of the spring surveys that were conducted for the 1999 FEIR or in 2003 (See Volume III, Appendix E). After the 2003 springtime botanical surveys were completed, the project impact area was revised slightly and portions of the revised project impact area were then outside of the boundary that was used for spring surveys. Therefore, additional botanical surveys were conducted in 2004. Prior to conducting the June 2004 botanical survey, an LSA botanist visited a known reference population for Pismo clarkia. During this visit, it was determined that the Pismo clarkia had finished blooming for the year although plants were still detectable. As no clarkia species were observed outside of the northwest and southwest corners of the intersection of Willow Road and Pomeroy Road, Pismo clarkia is not expected to occur within these areas. Access to the parcel on the northwest corner of Hetrick Avenue and Willow Road (750 Willow Road) was denied by the property owner and there is potential habitat for this species within this parcel. Therefore, the presence of Pismo clarkia within the entire current project boundary cannot be definitively ruled out.

The following sensitive plant species are not expected to occur within the project area:

- Marsh sandwort, federally and state listed as an endangered species;
- Gambel's watercress, federally listed as endangered and state listed as threatened;
- La Graciosa thistle, federally listed as endangered and state listed as threatened; and
- Nipomo Mesa lupine.

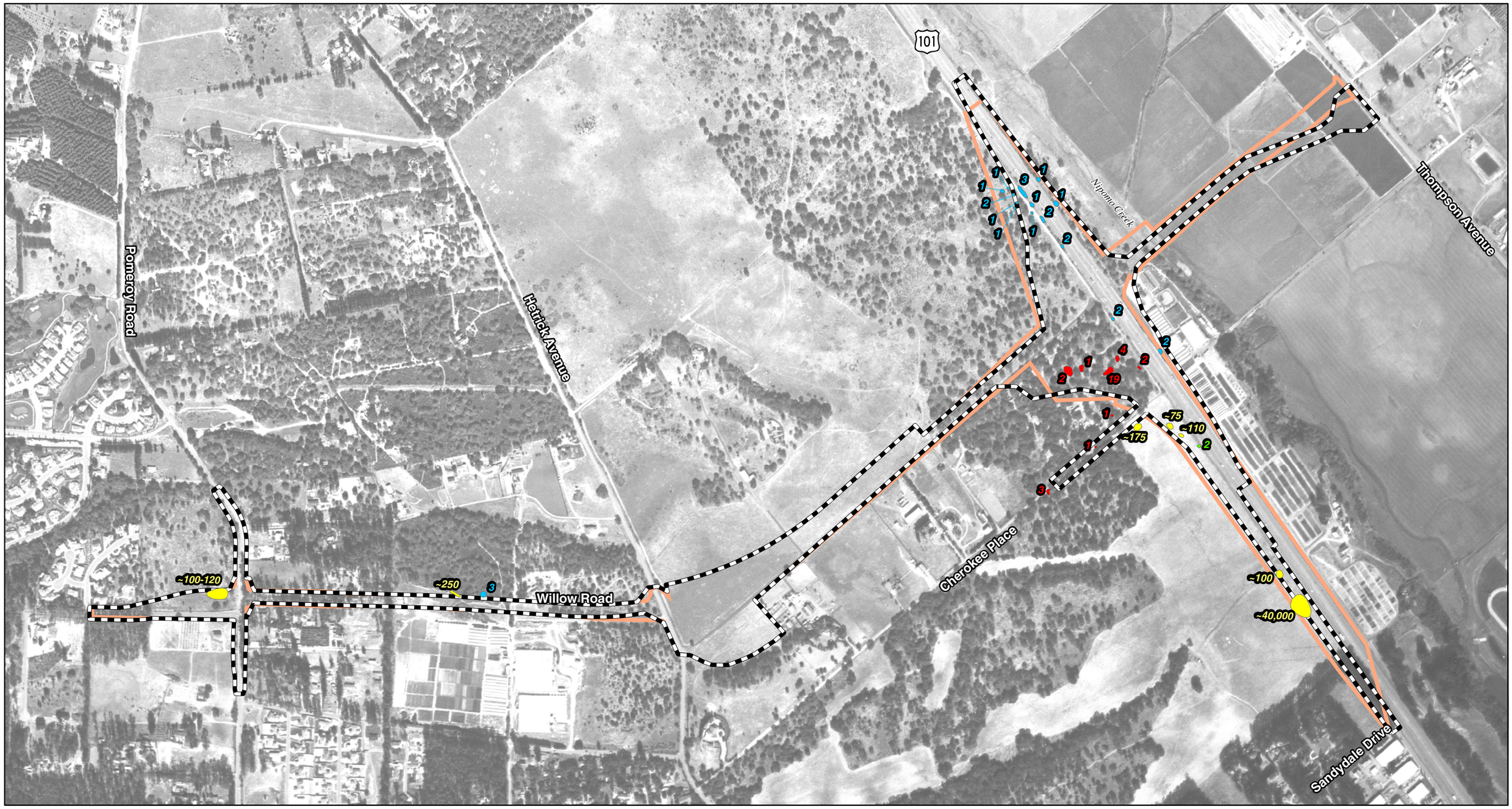
Four sensitive plant species were found during the botanical surveys conducted in spring 2003: sand mesa manzanita *(Arctostaphylos rudis),* Mile's milk vetch *(Astragalus didymocarpus* var. *milesianus),* California spineflower *(Mucronea californica),* and sand almond *(Prunus fasciculata* var. *punctata)* (See Figure V.F-2, Sensitive Plant Locations). With the exception of Mile's milk vetch, these species correspond with the sensitive plant species observed during the original biological assessment completed for the 1999 FEIR.

Sensitive Wildlife Species.

Listed Species. The **California red-legged frog** *(Rana aurora draytonii)* was not observed on site, or within the adjacent areas, during the on-site assessments. Based on a habitat suitability assessment (see Appendix F, Volume III) it was determined that suitable habitat (pools, surface water) for the California red-legged frog within one mile of the project site appears to be limited. Furthermore, there is no suitable habitat to support breeding populations of this species on or adjacent to the site. In addition, the CNDDB does not report any observation of this species in the Nipomo Creek watershed. The closest record of this species is in the Los Berros Creek drainage, which is located approximately 2.5 miles north of the project site. However, the California red-legged frog could potentially move into the project site from adjacent populations.

The Santa Barbara County population of **California Tiger Salamander** *(Ambystoma californiense)* was federally listed as endangered on September 21, 2000 by the USFWS. On July 22, 2002, the USFWS listed the Sonoma County population of this species as endangered. Subsequently, in August 2004, this species was federally listed as threatened throughout its range by the USFWS (USWFS, 2002). No California Tiger Salamanders were observed on-site, or within the adjacent areas, during on-site assessments. Although there are ground squirrel burrows which may provide opportunities for estivation on-site, there are no suitable pools for breeding habitat within or immediately adjacent to, the project boundary. In addition, the CNDDB has two historic records for this species in San Luis Obispo County in the vicinity of the project. Both records occurred in Lopez Canyon which has since been converted to Lopez Lake. Therefore, this species is considered extirpated from the area and is not expected to occur on or adjacent to the project.

South/central coast steelhead *(Oncorhyncus mykiss irideus)* is listed as "Threatened" by the NOAA fisheries. Although NOAA fisheries believes that historic observations have been made of steelhead in Nipomo Creek, the creek is not within designated critical habitat for steelhead and the current potential for steelhead occurrence within the project boundary or the adjacent reaches is very limited. Although there are occurrences of steelhead in the Santa Maria River, the habitat condition near the Santa Maria River confluence with Nipomo Creek is extremely degraded and



LSA

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LEGEND

- Project Boundary
- 2003 Spring Botanical Survey
- *California spineflower (approx. 40,825)*
- *Sand mesa manzanita (24)*
- *Mile's milk vetch (2)*
- *Sand almond (33)*

FIGURE V.F-2

Willow Road Extension/U.S. 101 Interchange Project
Sensitive Plant Locations

SOURCE: County of San Luis Obispo.
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this degraded condition of the downstream habitat would discourage the migration of salmonids upstream (Shopolov 1944).

No water was observed within the Nipomo Creek channel during the biological surveys completed in 2003. In addition, the sandy substrate within the channel is not suitable for steelhead, which prefers gravel-sized material for spawning. Furthermore, the segment of Nipomo Creek within the project area has been heavily degraded by livestock grazing. Therefore, this species is not expected to occur within the study area, or in the adjacent stream reaches.

Non-Listed Species. One sensitive reptile species, California horned lizard *(Phrynosoma coronatum frontale),* was observed during both the 1997 and the 2003 surveys. The California horned lizard is a State Species of Special Concern. Habitat on and adjacent to the study area is appropriate for this species, so substantial populations may be present in the vicinity. Two additional sensitive species observed during the 1997 surveys, but not during 2003 surveys, were the loggerhead shrike *(Lanius ludovicianus)* and the American badger *(Taxidea taxus),* both of which are State Species of Special Concern.

Western spadefoot toad *(Scaphiopus hammondii)* and the southwestern pond turtle *(Clemmys marmorata pallidaa)* are State Species of Special Concern. Potential habitat for these species was not observed within or adjacent to the project area. Therefore, these species are not expected to occur within or adjacent to the project area.

Although no bats were observed during the 1997 and 2003 surveys, suitable habitat exists within the project area. Existing oak trees and the cattle undercrossing have the potential to serve as suitable roosting habitat for native bat species.

The following additional sensitive animal species, which are discussed in more detail in Appendix A of the Biological Resources Analysis (Appendix E, Volume III of this SEIR) have a moderate or high potential to occur on site or as more than occasional migrants:

- California legless lizard
- California Tiger Salamander
- Coast patch-nosed snake
- White-tailed kite
- Northern harrier
- Cooper's hawk
- Sharp shinned hawk
- Burrowing owl
- Merlin
- Pallid bat
- California mastiff bat
- Yuma myotis
- Small-footed myotis

Sensitive Habitats. Habitats are considered to be sensitive biological resources based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of sensitive plants or animals occurring on the site. Four primary plant communities considered sensitive by State and/or local agencies were identified on site during field surveys. Each sensitive habitat identified in the project boundary is described in more detail below and are shown on Figure V.F-1, Vegetation Communities. Wetlands and waters of the United States are considered by federal and State agencies to be sensitive habitats. They are also described below and identified on Figure V.F-1.

Maritime Chaparral. Historically, large areas of California's central coast are reported to have been covered with dense chaparral. Today, only small, isolated fragments of northern and central maritime chaparral can be found growing in well-drained sandy soils along ridgelines and on coastal terraces between Sonoma and Santa Barbara Counties (Van Dyke et al., 2001). This habitat has either been removed or severely degraded over most of its range. Therefore, this habitat is regionally rare and declining. In addition, two sensitive plant species, sand mesa manzanita and sand almond, were observed within this habitat during on-site botanical surveys. This habitat is the primary habitat of a number of plant and animal species considered sensitive as identified in the sensitive species table. Typically, species within this habitat type are adapted to frequent fires, either through stump resprouting or seed bank dormancy (Hoover 1970). This means that species in this habitat type may either appear in profusion the year after a stand of maritime chaparral is burned, or otherwise germinate sparingly, if at all. Therefore, some disturbances, such as chaparral clearing, disking, and grazing activities along the proposed alignment could promote the growth of herbaceous species, including sensitive species, during the next growing season should the disturbance be halted. In addition, the constant disturbance of the understory throughout the site may mean that none of the habitat within the project area is at the climax stage of development. Although oak trees are often a component of maritime chaparral, the maritime chaparral within the project area may be succeeded by oak woodlands, as tree seedlings are found beneath shrub canopies.

Oak Woodland. Oak Woodland is considered sensitive by the County and CDFG, because the structural diversity of this habitat type provides relatively high wildlife habitat values. In each type of oak habitat (e.g., forest, woodland, savanna), there is a different set of co-occurring plant species. Wildlife is affected by these differing plant combinations in terms of food supply, nesting sites, and predator cover, and respond according to their own ecological requirements (Pavlik 1991). The structural diversity of oak habitat provides shelter to many kinds of wildlife. Bats are often dependent on oaks for feeding and resting during spring and fall migrations (Pavlik 1991). State oak populations are experiencing little or no tree replacement. Although there are periodic seasons of good acorn germination and seedling establishment, there is a persistent failure for seedlings to become pole-size trees (Pavlik 1991). Therefore, despite protection, California's oaks and oak habitats are declining.

The California Wildlife Conservation Board implemented the Oak Woodlands Conservation Act of 2001 and adopted guidelines to administer the program. In addition to a general plan, the County of San Luis Obispo has prepared an Oak Woodlands Management Plan in response to the overwhelming public favor of conserving the oak resources of the area. The plan is voluntary and for informational purposes and is not binding by law (Native Tree Committee of San Luis Obispo County 2003).

The oak woodland within the project boundary would not be considered "Biologically functional oak woodland" according to the California Oak Foundation. Rather, the site may be considered"ecologically sensitive oak woodland," as it contains single-layered canopy; riparian zone; burrows; and some downed woody debris. As the project area has a single-layered canopy with very limited burrow occurrence, the oak woodland within the project site would be considered to have minimal ecological sensitivity.

Willow Riparian. Riparian habitats are considered high-quality wildlife habitats because they provide protective cover, water, and food for a variety of species. Many animal species require riparian habitat for survival. Some large mammals that require access to water may use the band of riparian habitat as a wildlife corridor. This habitat type within the project area is subject to livestock grazing that may contribute to the even aged nature of this stand. This habitat, which occurs east of US 101, appears to be supported, at least in part, by water runoff from the adjacent nursery. In addition, as this habitat type is associated with drainages, it is considered sensitive by the CDFG and the Corps.

Freshwater Marsh. This habitat type, which often resembles grasslands, is seasonally flooded by freshwater and is dominated by persistent hydrophytic vegetation. Although standing water is typically not present within this habitat throughout the year, in this case, continual runoff from the adjacent nursery provides enough water to saturate soils. This habitat is considered sensitive by the CDFG and the Corps, as it is much reduced over its entire range and is associated with drainages.

Wetlands and Waters. Streambeds and associated wetland areas are regulated by the Corps and by the CDFG as described below under "Regulatory Setting." Thus, they are considered sensitive resources. The total area of jurisdictional waters of the United States within the project area is approximately 0.08 hectare (0.19 acre), of which 0.01 hectare (0.03 acre) is the Nipomo Creek drainage (Figure V.F-3). Nipomo Creek and the associated riparian vegetation functions primarily to increase the diversity of habitat on the property, and may retain enough seasonal moisture to provide breeding habitat for common amphibians.

Two jurisdictional areas that also meet the federal criteria as a wetland are the freshwater marsh and willow riparian habitats adjacent to the Creek, which amount to 0.06 hectare (0.16 acres). The drainage courses and associated riparian habitat meet all of CDFG's criteria for jurisdictional waters of the State (Figure V.F-3).

2. Thresholds of Significance

For a discussion of Federal and State regulatory requirements pertinent to this project, such as the Federal Endangered Species Act, the California Endangered Species Act, the Clean Water Act, the California Fish and Game Code, the Migratory Bird Treaty Act, and Federal Executive Order 13112 addressing invasive species, see Appendix E, pages 21-25.

Based on Appendix G of the State CEQA Guidelines and the County Initial Study Checklist, project effects upon biological resources may be significant if any of the following result:

- Substantial direct or indirect effect on any species identified as a candidate, sensitive, or special status species in local/regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

- Substantial effect upon sensitive natural communities identified in local/regional plans, policies, or regulations or by agencies above including substantial reduction or elimination of species diversity or abundance;
- Substantial effect (e.g., fill, removal, hydrologic interruption) upon federally protected wetlands or navigable waterways of the U.S. under Section 404 of the Clean Water Act;
- Substantial interference with movement of native resident or migratory wildlife species, fragmentation of established native resident or migratory wildlife corridors, inhibit the use of native wildlife nursery sites, or fragment, eliminate, or otherwise disrupt foraging areas or access to food sources;
- Conflict with any local policies/ordinances that protect biological resources (e.g., tree preservation policy or ordinance); or
- Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan.

3. Project Impacts

Construction of the proposed project will result in direct and indirect impacts to vegetation and wildlife habitats, including native and sensitive habitats. The following impact assessment evaluates impacts within the entire project area.

Sensitive Wildlife Species. California horned lizard, a sensitive species, was observed on site during both the 2003 and 1999 FEIR surveys. The American badger and the loggerhead shrike were observed within the project boundaries during surveys for the FEIR in 1997. In addition, the chaparral and oak woodland habitats within the proposed project boundaries are potential habitats for the California legless lizard, coast patch-nosed snake, white-tailed kite, northern harrier, Cooper's hawk, sharp shinned hawk, burrowing owl, merlin, grasshopper sparrow, pallid bat, California mastiff bat, yuma myotis, and small-footed myotis. If these species are present within the project boundaries, there is a potential for construction activities to kill or injure individuals. In addition, vegetation removal within the project boundary will remove potential foraging, breeding, and denning habitat for these species.

Wildlife in the vicinity of the project would be subjected to construction/operating noise, high-intensity lighting, storm water runoff erosion/sedimentation, urban pests, and invasive plant material. In addition, removing or altering habitat during construction would result in the direct loss of small mammals, reptiles, amphibians, and other animals of lesser mobility that live in the habitats within the project area. More mobile wildlife species within the study area may be able to vacate the area but would be forced to move into the remaining areas of open space. Consequently, this movement of individuals may result in an increase in competition for available resources in those areas and could result in impacts to individuals of wildlife populations that cannot compete successfully. For acreages of impacts to potential habitat, please refer to Table V.F-1, provided previously. Therefore, the potential exists for the proposed project to directly and/or indirectly impact these species, and these impacts would be considered significant. The mitigation measures prescribed in Section 5 will reduce these impacts to less than significant.

Potential impacts to Cooper's hawk, northern harrier, white-tailed kite, burrowing owl, and yellow warbler are considered low given the absence of these species from the vicinity of the project during surveys.

Although the federally listed threatened **California red-legged frog** may potentially occur in ponding areas in Nipomo Creek downstream of the proposed project, no potential breeding habitat for this species is located on or immediately adjacent to the proposed project. Although this species may migrate through the area in the rainy season if it is present downstream, if construction activities in the Nipomo Creek area occur outside the rainy season and Best Management Practices are employed to minimize erosion, then the proposed project will not directly impact this federally listed species.

If construction must occur during the rainy season, then focused protocol surveys shall be conducted within and adjacent to the project area to determine whether this species is present. If red-legged frogs are found within the project limits, additional measures shall be developed in coordination with the USFWS to avoid impacts to this species during construction. These measures shall include the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and Best

Management Practices (BMPs) as specified in Mitigation Measures L-1, L-3 and F-18, which require regulatory compliance to protect receiving waters during construction. The SWPPP and BMPs must include measures to keep sediment out of the creek during and after storm events (for example, excavation spoils being stored well outside the creek). With the implementation of Mitigation Measures L-1, L-3, F-9, F-11, F-13, and F-18, potential impacts to this federally listed species would be less than significant.

Although NOAA Fisheries believes that **South/Central Coast steelhead** have historically been observed in Nipomo Creek, these historic occurrences of steelhead have not been documented (Swift 1993). The current potential for steelhead within the project boundaries and the adjacent Nipomo Creek reaches is very limited to fish migration due to the degraded condition of the habitat near the Santa Maria confluence and the existing downstream (McGoogan 2003). In addition, the segment of Nipomo Creek within the project boundaries has been heavily degraded by livestock grazing, lacks water within the creek channel, and does not contain channel substrate suitable for steelhead. Therefore, this species is not expected to occur within the study area and will not be impacted by the proposed project.

Sensitive Plant Species. Occurrences of the endangered **Pismo clarkia** (federally and state-listed) are documented on the northwest and southwest corners of the Willow and Pomeroy Road intersection. Although a large population of Clarkia was observed at this location, it was identified as four spot clarkia *(Clarkia purpurea* var. *quadrivulnera).* Therefore, the Pismo clarkia was not observed within the study area at the time of 2003 botanical surveys. However, since the 2003 spring botanical surveys were conducted, the study area has moved slightly and in some instances occurs outside the spring survey limits (Figure V.F-4). In addition, these plants do not necessarily appear in the same location in consecutive years, which suggests that a seed bank may exist in soils of potential habitats. Although botanical surveys were conducted in some of these revised study areas in 2004, the property at 750 Willow Road, which has potential habitat for this species, was not surveyed due to the property owner's refusal to allow access to that property. Therefore, the presence of this species within that portion of the current project boundary cannot be definitively ruled out.

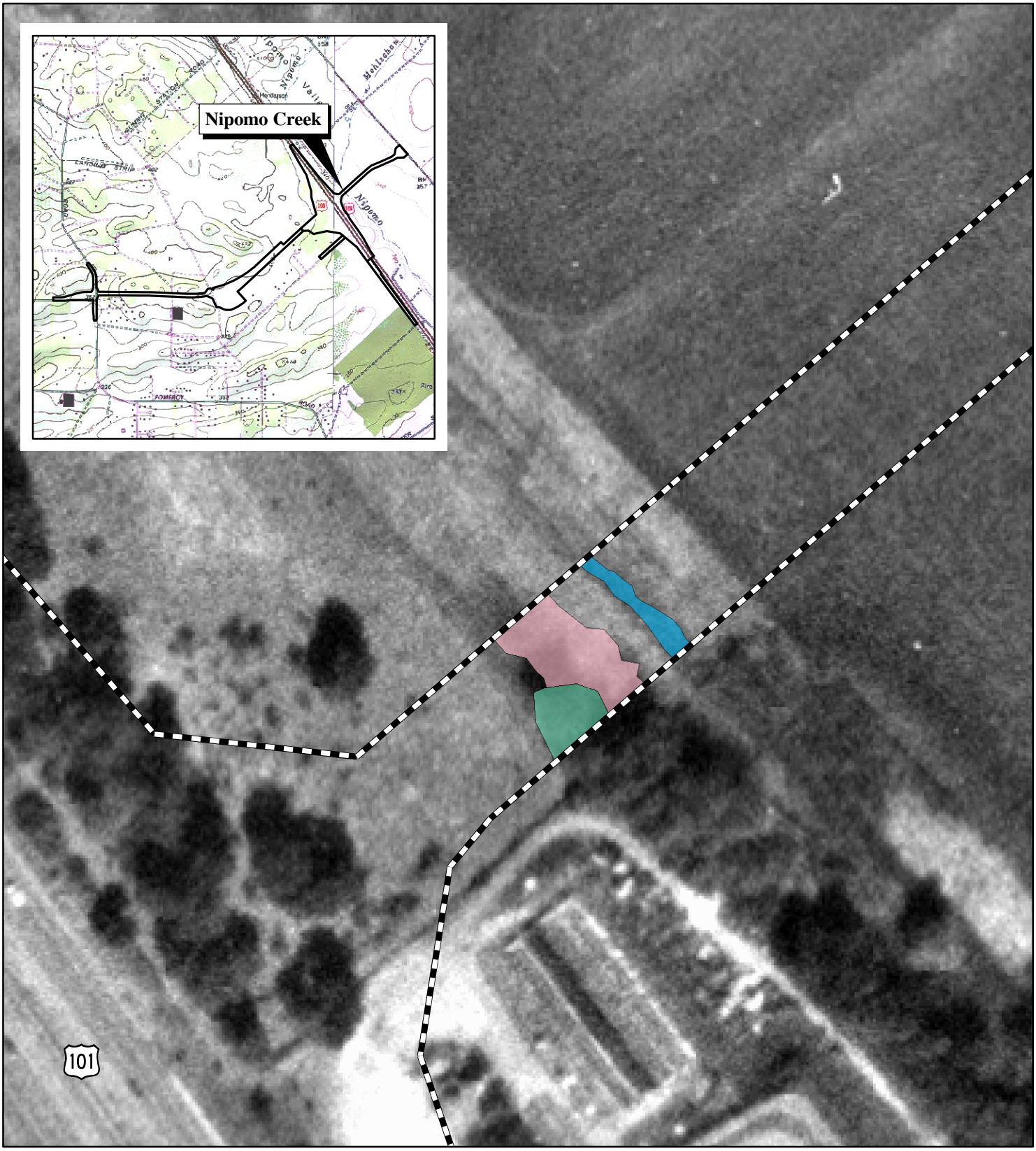

FIGURE V.F-3

LSA

LEGEND

- Project Boundary
- Freshwater Marsh (0.11 ac)
- Nipomo Creek (0.03 ac / 100.6 linear ft)
- Willow Riparian (0.05 ac)

0 50 100

FEET

Willow Road Extension/U.S. 101 Interchange Project

Jurisdictional Area Map

SOURCE: County of SLO, USGS 7.5' QUAD(s) - Oceano ('94), Nipomo ('65), Calif.

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Mitigation efforts for Pismo clarkia have frequently involved experimental attempts to establish populations in dedicated open spaces. However, to the USFWS's knowledge, none of these attempts have successfully created viable, self-sustaining populations. Therefore, attempts to reestablish populations on undeveloped portions of sites that will remain in open space would not be considered adequate mitigation under CEQA. According to the USFWS Recovery Plan, securing protection for large, self-sustaining populations is the primary recovery need for Pismo Clarkia. Only one naturally occurring population is currently protected. Secured sites should include adequate surrounding habitat to allow for population expansion and movement and to support pollinators. Habitat may be secured through fee purchase, conservation easements, and set asides as mitigation under CEQA.

Four sensitive plant species were observed within the study area during spring surveys. Limited occurrences of sand mesa manzanita, Mile's milkvetch, and sand almond as well as large populations of California spineflower were observed within the spring survey boundary. Population estimates, along with their locations within the project boundary at the time of the 2003 and 2004 spring surveys, are provided on Figure V.F-2.

Implementation of Mitigation Measures F-12 and F-16 prescribed in Section 5, Biological Mitigation Measures, will reduce impacts to these species to less than significant.

Impacts to Sensitive Habitat Types. The proposed project includes a two-lane bridge for the Willow Road crossing over Nipomo Creek. Although the bridge is being designed to leave the creek channel earthen and to locate the bridge abutments outside of the creek channel, there is a potential for construction to impact Nipomo Creek and associated riparian vegetation.

The proposed road alignment would impact a small area of **freshwater marsh and willow riparian habitats** (see Table V.F-1). Although the freshwater marsh and willow riparian habitats may provide some habitat for sensitive species, these habitats are highly degraded and of low habitat quality in comparison to the adjacent riparian habitats. Therefore, project impacts to freshwater marsh and willow riparian habitats will not be significant. Nevertheless, because the Corps and the CDFG have jurisdiction over these resources, the project must be reviewed and authorized by these agencies. It is likely that the agencies will require mitigation for project impacts to freshwater marsh and willow riparian habitats (see regulatory requirements for freshwater marsh and willow riparian habitats discussed in the Biological Resources Assessment report in Appendix E, pages 21-25).

Although the **maritime chaparral** throughout the project area has been subjected to various degrees of disturbances, this habitat type is of limited distribution and therefore any remaining stands are considered important for providing habitat for many sensitive species, including the California horned lizard, sand almond, and sand mesa manzanita observed in this habitat during site surveys. In addition, existing disturbances to maritime chaparral do not reduce the importance of this habitat type. Therefore, without mitigation, the removal of maritime chaparral habitat within the project boundary is considered a significant impact. Implementation of Mitigation Measure F-16 will reduce impacts to maritime chaparral habitat to less than significant. Table V.F-2 summarizes the impacts to various maritime chaparral habitats within the project boundary.

Table V.F-2: Maritime Chaparral Habitats within the Project Boundary

Vegetation Community	Total Hectares (Acres)
Maritime Chaparral	0.81 (2.00)
Annual Grassland/ Maritime Chaparral Ecotone	1.07 (2.65)
Mixed Oak Woodland/ Maritime Chaparral	0.23 (0.56)
Disturbed Oak Woodland/ Maritime Chaparral Ecotone	4.93 (12.17)
Total	**7.04 (17.38)**

There is a potential for **invasive plant species** to be imported to the adjacent native habitats and the Nipomo Creek drainage via contaminated construction equipment or imported materials such as soils. The dispersal of invasive species propagules in the area may be caused by vehicles on the roadway, the inadvertent inclusion of invasive species in seed mixes applied adjacent to the highway, and the spread of invasives during maintenance operations, such as mowing. In addition, the dynamic conditions associated with the creek create an ideal environment for the transportation and spread of any invasive exotic. Without mitigation, impacts from invasive species are considered a significant impact. Table V.F-3 lists the nonnative species that occur within the project boundaries and that are on the California Exotic Pest Plant Council's list of noxious weed species that require eradication, containment, and rejection or other holding action at the State and county level. Implementation of Mitigation Measure F-8 will reduce impacts from invasive plant species to less than significant.

Table V.F-3: Nonnative Species within Project Boundaries

Species Common Name	Latin Name
Hottentot Fig	*Carpobrotus edulis*
Sweet Fennel	*Foeniculum vulgare*
Foxtail chess	*Bromus madritensis* ssp. *rubens*
Veldtgrass	*Ehrharta calcyna*

The construction of the proposed Willow Road extension, interchange, and associated facilities will result in the **direct removal of oak woodland habitat as well as individual oak trees** (Figure V.F-5). As summarized in Table V.F-4, there are an estimated 938 coast live oak trees *(Quercus agrifolia)* within the current proposed project boundary, of which 810 are greater than 6 inches dbh. A physical count of oak trees present on the 750 Willow Road property was not available as access was denied by the property owner. Visual assessment of an aerial map of the project area allows an approximate count of an additional fifteen trees within the proposed alignment; however, sufficient information was not available to estimate the dbh of those trees.

Table V.F-4: Coast Live Oak Tree Summary within Project Boundary

Size	Quantity
> 6 inches dbh	810
< 6 inches dbh	113
Unmeasured dbh	15
Total	**938**

As indicated in both Table V.F-1 and Table V.F-5, below, 11.67 ha (28.80 acres) of oak woodland habitat including various subtypes and mixtures of oak habitats will be directly impacted by the construction of Willow Road.

Table V.F-5: Oak Woodlands Habitats within the Project Boundary

Vegetation Community	Total Hectares (Acres)
Oak Woodland	5.95 (14.69)
Disturbed Oak Savannah	0.56 (1.38)
Mixed Oak Woodland/Maritime Chaparral	0.23 (0.56)
Disturbed Oak Woodland/ Maritime Chaparral Ecotone	4.93 (12.17)
Total	**11.67 (28.80)**

As the oak woodland habitat within the project area has been subjected to various degrees of disturbances, such as grazing, mowing, and debris storage, it is not considered "biologically functional oak woodland". But it is considered to be "ecologically sensitive oak woodland." This habitat type is especially valuable and of limited distribution, and in some areas it is not regenerating. In addition, it provides habitat for well over 300 terrestrial species (Pavlik 1991). Disturbances to this habitat type only partially reduce its importance. As the development of mature large trees requires 60–80 years, the direct removal of this habitat type will result in unavoidable loss of habitat, which will remain significant even after mitigation until such time as the oak woodland habitat provided for in the mitigation becomes ecologically functional.

The construction activities associated with the proposed frontage road will potentially result in the degradation of the adjacent oak woodland habitat (see Figure V.F-5). This oak woodland habitat has not been subjected to as many disturbances as some of the other oak woodland habitat in the project area and therefore the habitat is considered to be of higher quality. In addition, the oak woodland habitat along the frontage road is adjacent to annual grasslands. Grassland habitat adjacent to stands of oak trees offers valuable habitat to hawks and owls that perch in the oak trees and forage in the open grassland. Although existing paved and dirt road alignments were incorporated in the design of the proposed project, the direct impacts to oak woodland and individual oak trees for the construction of the road extension, interchange and associated facilities, along with the indirect impacts to adjacent oak woodland habitats, are considered significant. Mitigation Measures F-15 and F-16 are required to offset impacts to both individual oak trees and the oak habitats within the project boundaries.

Impacts to Jurisdictional Waters. The proposed project may impact wetland (0.16 acre) and non-wetland (0.03 acre) waters potentially subject to Corps of Engineers (Corps) jurisdiction. In addition, the proposed project may impact additional riparian habitat that may be subject to CDFG jurisdiction.

Based on the project design addressed in this SEIR, approximately 0.19 acre of jurisdictional waters of the U.S. would be directly impacted by the proposed road extension crossing over Nipomo Creek (Jurisdictional Delineation Report, LSA Associates, Inc. Appendix E).

Once the footprint and associated ground disturbance for the construction of the crossing, along with the ground disturbance associated with the construction activities is finalized, the Corps and CDFG shall be consulted for a final determination regarding the jurisdictional delineation. The acreages of the potential impacts to jurisdictional areas will then be finalized. Any substantial impacts (e.g., greater than 0.1 acre) to jurisdictional areas within the project area will be considered significant for which mitigation will be required. Mitigation is required for all impacts and compensatory mitigation is required for permanent loss. Mitigation shall include preparation of a Habitat Mitigation and Monitoring plan (see Mitigation Measure F-17).

Impacts to Wildlife Movement. Fragmentation of habitats is caused by developing a corridor through functional, intact habitats. Segmenting intact habitat lessens the value of the remaining habitat pieces by reducing the movement and communication of animals from one habitat segment to another. However, these effects are not associated with the proposed project, since the proposed alignment in the areas other than the proposed Nipomo Creek crossing primarily follows existing road alignments.

Wildlife may depend upon the Nipomo Creek riparian/wetland habitats as a movement corridor. Although the bridge project design features will reduce the potential long-term impacts to wildlife movement in this corridor, indirect effects such as construction and long-term operational noise, lights, storm water runoff, erosion, increased mortality associated with vehicular interactions, urban pets, invasive plant material, and introduced human activity in the area could potentially impact wildlife movement in the Nipomo Creek Corridor. In addition, habitat shifts (toward introduced, nonnative species) that may occur over time can render wildlife corridors unusable by many species, as those that are substantially degraded may no longer provide food or shelter. Therefore, impacts to the Nipomo Creek Corridor are a potentially significant impact. By implementing Mitigation Measures F-20 and F-21, impacts to wildlife movements will be temporary and, therefore, long-term impacts will be reduced to less than significant.

Indirect Impacts. Indirect impacts include: (1) construction-related impacts such as impacts from dust, potential fuel spills from construction equipment, and activities of equipment or personnel outside designated construction areas; and (2) operation impacts such as effect on adjacent habitats caused by runoff, traffic, and litter. Operation of proposed project facilities will increase automobile and pedestrian traffic in the vicinity, as well as human presence and human use of the area. Consequently, the presence of trash and noise, as well as increased fire risk, will increase around project facilities. These indirect impacts lower the value of adjacent habitats for wildlife and plants, and, therefore, may be considered potentially significant.

Wildlife in the vicinity of the proposed road extension and interchange would be subjected to construction and operations noise, high intensity lighting, storm water runoff, erosion, urban pests, invasive plant material, increased vehicle speeds, and increased traffic. These conditions will exist

FIGURE V.F-4

LSA

LEGEND

Project Boundary
2003 Spring Botanical Survey Limits
2004 Botanical Survey Limits
Unsurveyed Area

0 375 750 Feet

SOURCE: County of San Luis Obispo.

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Willow Road Extension/U.S. 101 Interchange Project

Botanical Survey Limits

over the short-term, during project construction, as well as over the long-term, while the proposed project is operational. These influences can extend well into areas adjacent to construction to the point where wildlife far from the project footprint may be forced to vacate the area due to the chronic nature of the construction disturbance. Implementation of mitigation measures C-1 through C-3 will aid in the reduction of construction related noise impacts and, therefore, will reduce noise-related disturbance to wildlife and wildlife movement. Implementation of mitigation measures F-22 through F-25 will aid in the reduction of all other indirect impacts associated with construction and operation of the proposed project.

In addition, individuals that do not vacate adjacent habitats may still perish due to predation or competitive effects with other animals encountered during dispersal movements. However, as there is existing pavement at the same location, and the Nipomo Creek crossing will be designed to allow the continual movement of wildlife beneath the roadway, the increase in traffic, construction/operation noise, lighting, storm water runoff, and invasive plant material is expected to be less than significant upon implementation of the aforementioned mitigation measures.

Impacts to General Biological Resources. In addition to the impacts discussed above pertaining to sensitive wildlife, plants and habitats, the following impacts on all biological resources will be associated with the project:

Direct loss of habitat will occur as a result of vegetation removal during construction. These impacts are considered permanent impacts. This is not significant where the existing habitat condition is disturbed, developed or ruderal. However, where the habitat is native or sensitive, this impact would be considered potentially significant.

Potential damage to habitat or increased species' mortality adjacent to the proposed road alignments will be caused by construction and traffic noise, spread of invasive exotic plant species along the proposed alignments, vehicular impact, roadside maintenance activities (i.e. maintenance of shoulders, berms, and drainage structures), litter, etc. These effects lower the value of adjacent habitats for wildlife and plants, thereby increasing the amount of habitat disturbed. Along much of the proposed alignment, the habitat is disturbed and non natives have been introduced, especially along existing roadways and in areas used for grazing. However, in sensitive or undisturbed habitats, the project's impacts are potentially significant.

Although no active nests were observed during 2003 surveys of the project area, many of the bird species recorded during on-site surveys are expected to nest within the project boundary, including the following raptors: red-tailed hawk, barn owl, and great horned owl. Therefore, a potential exists for the proposed project to impact nesting birds.
Implementation of Mitigation Measures F-1 through F-8 will reduce the impacts on general biological resources to a level that is less than significant.

4. Cumulative Impacts

Cumulative biological impacts are the collective result of any number of related or unrelated projects ongoing or proposed within geographical areas that together have a greater impact on biological resources than any one project considered individually. The study area for assessing the cumulative biological impacts of the proposed project is provided in Figure IV-1 in Chapter IV, Cumulative Projects.

LSA

FIGURE V.F-5

0 375 750 FEET

LEGEND

Project Boundary **Oak Tree dbh (Count)**

- less than 6 inches (113)
- 6 inches and greater (810)

SOURCE: County of San Luis Obispo.

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Willow Road Extension/U.S. 101 Interchange Project

Oak Tree Survey

From a biological perspective, the geographic area defined in Section IV.B and shown in Figure IV-1 is considered appropriate for the cumulative analysis because: (1) impacts to water quality upstream of Nipomo Creek may be compounded by additional impacts downstream; (2) due to the limited distribution of riparian habitats, projects along Nipomo Creek are more likely to result in significant impacts to these sensitive habitat types; (3) due to the limited distribution and/or suitable habitat for the sensitive species identified within this assessment, projects within and adjacent to the sensitive native habitat, such as maritime chaparral, oak woodland, and various riparian habitats could have cumulative impacts to sensitive species; (4) fragmentation of riparian habitats by these projects could cause impacts to wildlife movement within Nipomo Creek; (5) impacts to jurisdictional waters along Nipomo Creek may result in significant cumulative impacts; (6) increase in impervious substrates immediately adjacent to Nipomo Creek may ultimately increase surface water levels; and (7) the topography, geology, and old dune sand soils of the Nipomo Mesa are distinct from surrounding areas in southern central coastal California.

The proposed project may result in a contribution to regional (or cumulative) effects which include:

- Direct impacts to sensitive habitats such as oak woodland maritime chaparral and riparian habitats;
- Direct and indirect impacts to a variety of sensitive plant and wildlife species;
- Introduction of nonnative invasive plant species;
- Potential increased disturbance by increasing accessibility of adjacent native habitats to human use;
- Increased potential for fire;
- Introduction of regular road maintenance activities along Willow Road;
- Impacts to jurisdictional wetlands within Nipomo Creek;
- Impacts to potential habitat for sensitive species; and
- Impacts to hydrologic function, water quality, erosion/sedimentation potential and groundwater resources within the Nipomo Creek watershed.

However, due to the high level of disturbance to existing native habitats such as oak woodland and maritime chaparral caused by maintenance activities, brush clearing, and grazing in the project area, the small amount of permanent impacts to riparian resources associated with Nipomo Creek that can be attributed to the proposed project, the existing nonnative component of vegetation, the proposed road alignment incorporating existing roadway sections, oak and sensitive habitat restoration plans, and the project design features associated with the proposed Nipomo Creek crossing, the project will not contribute significantly to most of the cumulative impacts identified above.

The proposed project's contribution to cumulative impacts on sensitive species, such as the sand almond**,** sand mesa manzanita, California mucronea, and Mile's milkvetch; on various sensitive wildlife species; and on sensitive habitat types including oak woodland and maritime chaparral has the potential to be significant without mitigation. However, as there is an existing roadway along or immediately adjacent to most of the proposed alignment, and the native habitats within the vicinity are currently subject to extensive disturbances already, including the introduction of invasive nonnative

plant species, grazing, and maintenance activities, these project impacts are not expected to cause a significant contribution to the projected cumulative impacts.

5. Mitigation Measures

Mitigation Measures for General Impacts to Biological Resources

F-1, Construction Fencing. All construction-related activities shall be confined to the proposed boundaries by installing construction fencing along the boundary prior to any ground disturbance to prevent any construction activities from encroaching into adjacent areas. All construction staging will occur within the proposed roadway or in existing developed areas as these areas are less likely to contain habitat suitable for sensitive species. Project construction plans shall include this measure in the specifications. All fencing shall remain in good working order for the duration of all construction-related activities. All-weather signs stating "Sensitive Area – Stay Out" shall be posted every 50 feet.

F-2, Project Biologist. Prior to initiating construction, the California Department of Transportation (Caltrans) and the County shall designate a qualified project biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities in association with project construction in accordance with the adopted mitigation measures and applicable law.

F-3, Biological Monitor. Prior to initiating construction, the County shall designate a qualified biologist to monitor all construction activities within and adjacent to native habitats to ensure that construction does not encroach into these areas.

F-4, Vegetation Removal Restriction/Nesting Birds. During construction, vegetation removal or construction activities shall not occur during the primary nesting season for local birds (April 1–August 31) where oak woodlands, wetlands, and maritime chaparral occur on, or adjacent to, the proposed project. If vegetation removal or construction activities must occur in these areas during this period, then preconstruction surveys shall be conducted in the appropriate habitats within and adjacent to the project boundary to identify nesting birds within or adjacent to the proposed project. If active nests are observed within or adjacent to the project boundary then a buffer is required until either the young have fledged or the nest becomes inactive. The preconstruction survey limits and buffer shall be designated by the project biologist prior to construction in the affected nesting areas. Limits and buffers shall be clearly marked in the field and shown on applicable construction plans.

F-5, Monitoring Reports. During construction, the project biologist shall provide quarterly monitoring reports documenting compliance with the avoidance and minimization measures, and shall submit the mitigation report to Caltrans, the County, and the appropriate resource agencies. All recommended remedial work shall be completed within 30 days of identification unless the biologist determines another time is more biologically appropriate.

F-6, Avoidance of Work During the Rainy Season. Construction activities in the Nipomo Creek area shall occur outside the rainy season to minimize sedimentation within the drainage. Project construction plans shall include this measure in the specifications.

F-7, Sensitive Habitat Buffers. Permanent fences or other approved methods (such as planting suitable native trees and shrubs in the buffer area between the side of the road and native habitats)

shall be used to discourage off-road disturbance from pedestrians and vehicles in sensitive habitat areas. Project construction plans shall include these measures in the specifications.

F-8, Non-Native Vegetation Removal. The construction contractor and project biologist shall ensure that no nonnative plant material shall be brought onto the construction site. Due to the vegetative reproduction characteristics of the species in Table C of the Biological Resources Analysis (Appendix E) any occurrence of these species shall be removed from the site prior to vegetation-clearing activities at the direction of the project biologist. In addition, the potential for contribution of funds to programs, such as the removal of invasive species from riparian habitats like Nipomo Creek, should be considered in the mitigation and monitoring plan. The following measures shall be used as applicable to minimize impacts from non-native vegetation:

- Prior to exotic plant removal, the County shall retain a qualified biologist to conduct focused protocol surveys to determine the presence or absence of sensitive species within the area slated for exotic vegetation removal.
- If sensitive species are observed within the areas slated for exotic vegetation removal, then consultation with the USFWS shall be required prior to implementing any work activities.
- Exotic weed removal shall be completed during the fall and winter months. All material removed shall be bagged and disposed of at a landfill.
- All exotic weed removal activities shall be monitored by a qualified biologist.
- The County shall ensure that the habitat enhancement site is kept free of exotic reintroduction for a period of five years following the completion of the exotic plant removal.
- All seed mixes used for erosion control purposes shall be native or considered non-aggressive by a qualified biologist and shown on all applicable plans.

Mitigation Measures for Impacts to Sensitive Species

F-9, Preconstruction Surveys. The project biologist shall perform preconstruction surveys in appropriate habitats, within and adjacent to the project boundary, for sensitive species, such as the California horned lizard. If sensitive species are found within the preconstruction survey area, a biological monitor (qualified to handle species, when required), designated by the County, should be present during vegetation clearing and grading activities to capture and relocate any sensitive wildlife species.

F-10, Bat Biologist. As the project area has the potential to provide suitable bat habitat, during the spring and summer (May–August) and prior to vegetation removal or alteration of existing structures, the County shall designate a qualified bat biologist to survey all potential roosting habitat proposed for removal by the proposed construction.

If a roost is found, the bats shall be discouraged from returning to their roosting area and the resource removed immediately so that the bats cannot return and would be forced to find alternative roost sites. Since each roost situation is different, the qualified bat biologist shall determine the manner of exclusion. Tree removal shall be completed between September and November or March to April to avoid hibernating bats (December–February) and maternity season (May–August) if feasible. If tree removal must occur during hibernating or maternity season, then the designated qualified bat biologist

shall conduct surveys prior to tree removal to determine if hibernating or maternity bats are present within or adjacent to the project limits. The limits of the buffer will be determined by the bat biologist. If they are present, then the bat biologist shall designate a buffer around the location where tree removal cannot occur until the bats have finished hibernating or the young have left the roost. If hibernating or maternity bats are not present, then tree removal shall be initiated within 30 days of the survey.

F-11, Temporary and Long-Term Lighting Minimization. During construction, if deemed necessary by the project biologist, lighting screens shall be used to reduce light pollution during evening construction. In addition, construction crews shall also reduce the number of times the lights are turned on and off to avoid sudden changes that may disturb wildlife and/or wildlife movement. The use of long-term lights on the proposed road shall be minimized to reduce impacts of the proposed road on sensitive wildlife species. Any lights at the interchange shall contain low light features where feasible, including (1) low-intensity street lamps, (2) lower elevation street poles, or (3) shielding by internal silvering of globes or external opaque reflectors.

F-12, Pismo Clarkia Surveys. The final project boundary shall be surveyed by the project biologist as designated by the County, during the blooming period for Pismo clarkia (May–July) prior to issuing the construction contract. If surveys locate Pismo clarkia within the portion of the project with federal involvement then a Biological Assessment would need to be prepared and submitted to the USFWS and CDFG and applicable requirements of the Federal and California Endangered Species Acts would need to be met prior to any construction or site preparation activities. A preservation plan shall be prepared that, at a minimum, would result in no net loss of the plant. If the Pismo clarkia is observed in the remaining project boundaries, the appropriate permit must be obtained from the CDFG.

F-13, California Red-Legged Frog. Construction activities in the Nipomo Creek area shall occur outside the rainy season to ensure that the proposed project will not impact the California red-legged frog. If construction must occur during the rainy season, then focused protocol surveys shall be conducted within and adjacent to the project area to determine whether this species is present. If red-legged frogs are found within the project limits, additional measures shall be developed in coordination with the USFWS to avoid impacts to this species during construction. These measures shall include the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and Best Management Practices (BMPs).

Mitigation Measures for Impacts to Sensitive Habitats

F-14, Trash Disposal. The contractor shall ensure that trash and debris deposits adjacent to native habitats shall be disposed of daily during construction to reduce impacts to sensitive habitats, such as maritime chaparral and oak woodland. Project construction plans shall include this measure in the specifications.

F-15, Oak Tree Replacement. Mitigation for removal or damage of oak trees must be accomplished by replacing trees removed or damaged at a ratio in accordance with the County of San Luis Obispo standards. The County of San Luis Obispo recommends a 4:1 replacement of oak trees greater than 6 inches diameter at breast height (dbh) removed by development activities. Impacted or damaged trees shall be replaced at a 2:1 ratio. When work under driplines cannot be avoided, all limb trimming and root cutting shall follow good arborists' practices. An oak tree replacement plan shall be prepared

along with the Habitat Creation, Conservation and Enhancement Plan described below prior to project grading for review and approval of the County of San Luis Obispo, Department of Planning and Building with the intent of successfully reestablishing the removed or damaged oak trees. At a minimum, the plan shall (a) identify the number of oak trees to be removed and impacted, (b) specify the number and location of oak trees to be planted, (c) provide replanting in compatible areas near project facilities, and (d) identify all areas to be permanently set aside for oak replacement. Oak trees removed or damaged by project activities must be replaced by locally collected acorns or other propagules, preferably collected from within the area of the proposed construction. Final numbers of oak trees and corresponding diameters shall be assessed prior to the start of construction based on final design.

F-16, Habitat Creation, Conservation, and Enhancement Plan. A Habitat Creation, Conservation and Enhancement Plan shall be prepared to mitigate maritime chaparral and oak woodland habitats, as well as any riparian habitats associated with Nipomo Creek, impacted or removed during construction in accordance with agency and County requirements. This Habitat Creation, Conservation and Enhancement Plan shall be prepared and at least initially implemented prior to initiation of construction. The plan shall discuss not only the creation, conservation, or enhancement of habitat, but the re-creation, conservation, or enhancement of the original ecological function of habitats impacted by the project. To accomplish this, the plan shall include identification of areas where native habitats are to be restored, conserved, or enhanced or other means of ensuring no net loss of sensitive native habitats. In addition, this plan shall identify the potential occurrence of the sensitive plant species such as sand almond, sand mesa manzanita, and California spineflower to provide the opportunity to include the mitigation for project-related impacts to these sensitive botanical resources.

Three options have been identified to mitigate for impacts to oak woodland and maritime chaparral. These options include habitat creation, habitat conservation and habitat enhancement all of which may be used individually or in combination to fulfill the mitigation requirements for the impacts to both the sensitive habitat types and individual oak trees associated with this project. The following mitigation ratios shall be applied for the various options:

- Habitat creation shall be implemented at a 1:1 ratio. This option provides an opportunity to replace impacted chaparral and fulfill the County tree replacement standards by planting oak trees for habitat creation.
- Sensitive habitat conservation shall be implemented at a 1:1 ratio. In addition, enhancement of the area set aside for conservation with new plantings provides an opportunity to fulfill the County tree replacement standard, as along as other existing sensitive habitats are not displaced from planted trees at maturity.
- Habitat enhancement shall be implemented at a 2:1 ratio as this option includes sensitive habitats that are already been owned by the County and preserved that are not part of any other mitigation program. This option may provide an opportunity to fulfill the County tree replacement standards by planting oak trees where existing habitat is considered degraded or non-native.

Additional details, as described below, shall be incorporated into the plan where applicable to assist in the success of each of the mitigation options.

Habitat Creation

- Oak trees should be replaced using locally collected acorns or other propagules, preferably collected from within the area of the proposed construction.
- Sensitive plant species, including sand almond, sand mesa manzanita, and California spineflower shall be propagated from local seed stock, preferably from seed or propagules salvaged from within the proposed alignment.
- Sufficient topsoil shall be stockpiled for use in the revegetation areas.
- Grazing or other vegetation-disturbing activities shall not be permitted within areas proposed as mitigation.
- These areas would be set aside in perpetuity after creation.
- Monitoring by a qualified individual for no less than three years.

Habitat Conservation

- A conservation easement shall be selected to preserve a larger area of high-quality sensitive habitat that contains the same sensitive species, specifically the sand almond, sand mesa manzanita, and California spineflower, at similar population levels as will be impacted by the proposed project.
- The development rights of the property shall be relinquished to another entity that has its primary purpose the preservation, protection, or enhancement of land in its natural condition or use; the CDFG; or to another State or local government entity if otherwise authorized to acquire and hold title to real property.
- The easement should be created in such a way that further impact to sensitive species cause by edge effects are reduced and the ratio of surface area to the perimeter of conserved habitats is maximized. In this way, the area can provide suitable foraging and nesting habitat for native species.
- Once a suitable site for land acquisition is found, a biological assessment of the resources present on site shall be performed, and a report shall be generated that includes information on the baseline environmental data on the property.
- The County Department of Public Works will be responsible for keeping track of the land, resources, and monitoring efforts and provide this information to the Planning and Building Department (Environmental Division).

Habitat Enhancement

- Oak trees shall be replaced using locally collected acorns or other propagules, preferably collected from within the area of the proposed construction.
- As with habitat creation, the sensitive plant species including sand almond, sand mesa manzanita, and California spineflower shall be propagated from local seed stock, preferably from seed or propagules salvaged from within the proposed alignment.
- These areas would be monitored by a qualified individual for no less than 3 years and set aside in perpetuity after enhancement

F-17, Conditions of Approval to Address Impacts to Jurisdictional Waters. To reduce impacts to riparian habitats and associated drainages subject to Corps and/or CDFG jurisdiction, the following are required:

- A U.S. Army Corps of Engineers (Corps) authorization pursuant to Section 404 of the Clean Water Act is required for any discharge of dredge or fill material into jurisdictional areas of Nipomo Creek.
- A Section 1602 Streambed Alteration Agreement with the California Department of Fish and Game (CDFG) will be required in the event of any alteration of Nipomo Creek or the associated riparian vegetation.
- To obtain the Corps permit and CDFG streambed alteration agreement, a Habitat Mitigation and Monitoring plan shall be prepared by a qualified biologist for any impacts to areas subject to state or federal jurisdiction. There are no predetermined ratios for habitat replacement. The nature and extent of habitat replacement is determined on a regular case by case basis. Generally, habitat replacement ratios exceed 1 to 1 in order to compensate for the gradual nature of revegetation and off-site habitat replacement. As the vegetation within the Nipomo Creek crossing is degraded, this plan may include additional restoration either upstream or downstream of Nipomo Creek. If this type of restoration is not possible within the adjacent reaches of Nipomo Creek, the County shall contribute to a restoration program of the Nipomo Watershed at the replacement ratio established by the permit. Restoration within the watershed will result in the replacement of jurisdictional habitat lost by the proposed project. The mitigation plan must be submitted to the agencies for their approval, along with the permit applications.

F-18, SWPPP and BMPs. Construction activities within or adjacent to drainages and Nipomo Creek (including roadside ditches that discharge to Nipomo Creek) should occur outside the rainy season (October–May) to ensure that construction activities do not cause sedimentation of the creek. If construction must occur during the rainy season, then the SWPPP shall be prepared and construction site BMPs shall be installed before any construction begins to include measures to keep sediment out of Nipomo creek during storm events (for example, excavation spoils being stored and trapped outside the creek, and siltation basins installed down-gradient). In addition, the SWPPP and BMPs will identify measures to restrict dust.

F-19, Construction Equipment Staging. No fueling, lubrication, storage, or maintenance of construction equipment within 46 meters (150 feet) of CDFG or Corps jurisdictional areas shall be permitted, which includes riparian and sensitive habitats. Spoil sites shall not be located within CDFG and Corps jurisdictional areas, including riparian and sensitive habitats, or in areas where it could be washed into Nipomo Creek.

Mitigation Measures for Impacts to Wildlife Movement

F-20, Creek Crossing Lighting. The use of lights on the proposed creek crossing shall be minimized to reduce impacts on wildlife movement under the crossing. No artificial lighting shall be installed or used in or around the bridge/culvert unless otherwise required to meet Caltrans approval. If lights are required for the crossing, a biologist shall be retained to assist in the creation of a lighting plan design. Low-light features shall be used where feasible, including: (1) low-intensity street lamps, (2) lower

elevation street poles, or (3) shielding by internal silvering of globes or external opaque reflectors. This measure shall be included on the construction specifications.

F-21, New Bridge. Prior to project design plan approval, the County of San Luis Obispo Public Works Department shall ensure that the design of the new bridge over Nipomo Creek shall include solid concrete railing, which decreases noise from traffic. In addition, the proposed Nipomo Creek crossing shall have an earthen bottom and the vegetation within the channel will be replanted with native species after construction is completed.

Mitigation Measures to Address Indirect Impacts

In addition to measures considered during the design phase of the project, such as engineering the road to the minimum dimensions possible and selecting the project location along or immediately adjacent to existing roadways to avoid and reduce potential habitat fragmentation and foraging impacts, indirect impacts to sensitive and undisturbed habitats can be mitigated to a level less than significant by establishing and maintaining environmental protection rules for project personnel including the following:

F-22, Dust Control Program. The County and construction contractor shall ensure that a dust control program is in place during construction so that native trees and shrubs are not damaged due to dust covering the leaves. A maximum speed limit of 15 miles per hour will be posted on all construction routes. Watering trucks shall be used regularly with sufficient frequency to eliminate visible dust behind construction vehicles.

F-23, Speed Limits. The construction contractor shall ensure that all construction personnel obey speed limit rules both along public roads and designated project access. Driving off designated project routes shall not be permitted. This measure shall be included in the construction plan specifications.

F-24, Pollution Prevention. The County and construction contractor shall ensure that pollution prevention practices shall be employed to prevent contamination of native habitats by construction-related materials. All project-related trash shall be collected and properly disposed of at the end of each work day. This measure shall be included in the construction plan specifications.

F-25, Best Management Practices. The County and construction contractor shall ensure that Best Management Practices (BMPs) are employed to minimize erosion from the construction of project facilities and deposition of soil or sediment in off-site areas, especially in the vicinity of the riparian/wetlands areas associated with Nipomo Creek, east of US 101. This measure shall be included in the construction plan specifications. Specific water quality BMPs are specified in Section V.L. of this EIR.

Mitigation Measure to Address Cumulative Impacts

Implementation of the mitigation measures contained herein will mitigate the proposed project's cumulative impacts to less than significant. Therefore, no additional measures are required.

6. Residual Impacts

The proposed project would directly impact 28.8 acres of oak woodland habitat, including various subtypes and mixtures of oak habitats. Included in the impacted oak woodland are 938 oak trees, 810 of which are greater than six inches dbh, and 15 of which were estimated to exist on the 750 Willow Road property. Preparation of an Oak Tree Replacement Plan is prescribed in Mitigation Measure F-15 and Oak Woodland Habitat Creation, Conservation and Enhancement is prescribed in Mitigation Measure F-16. Project impacts to oak woodland and oak trees are nevertheless considered significant adverse impacts until the replacement trees and restored/enhanced habitat is considered viable.

V.G. CULTURAL AND PALEONTOLOGICAL RESOURCES

The information summarized in this section is derived from several technical reports. These reports include the *Archaeological Survey Report, Willow Road Extension Project* (Pletka and Pletka 2003); the *Historical Resources Evaluation Report, Willow Road Extension Project* (Marvin 2004); the *Paleontological Resources Review, Willow Road Interchange* (Reynolds 2005); and the *Supplementary Phase I/Phase II Testing Report, Willow Road Extension Project* (Strudwick, et. al. 2005). The reports provide full descriptions and evaluations of the cultural resources found within the project area. All reports are on file with the County. In addition, the *Supplementary Phase I/Phase II Testing Report, Willow Road Extension Project* and the *Paleontological Resources Review, Willow Road Interchange* can be found in Volume III, Appendices G and H.

1. Existing Conditions

Physical Setting. The project area is situated at the boundary between Nipomo Mesa, located to the west of US 101, and Nipomo Valley, which lies to the east of US 101. Strong westerly winds blowing from the ocean have created large coastal dune fields, of which one is the Nipomo Dunes. Nipomo Mesa is among the oldest and largest portion of the Nipomo Dunes, which extends approximately 16 km (10 miles) along the coast from Oceano south to Pt. Sal, and about the same distance inland to the Nipomo area. The Nipomo Mesa dunes have been stabilized by vegetation for approximately 10,000 years (Sharp and Glazner 1993) and since then have been greatly weathered. This region once supported a number of Pleistocene animals and Paleontological resources are known from the Pleistocene portion of the Nipomo Dune Complex. Nipomo Creek runs through the valley along the base of the slope leading up to the Mesa. Several smaller creeks drain through the valley into Nipomo Creek.

Flooding, wind erosion, and similar processes have influenced the visibility of archaeological sites and historic settlement. Periodic flooding of the drainages in Nipomo Valley, for example, could have buried archaeological sites. Since the dunes of the Nipomo Mesa have been stable for most of the time period that humans occupied the coast, most archaeological sites within the Nipomo Mesa region are thought to lie at or near the surface, whereas paleontological resources occur in deeper sediment. Occasionally, however, Pleistocene sediment is bisected by channels such as Nipomo Creek, which exposes fossils.

Landform and habitat in the area also influenced how humans settled and used the region. Since water is a limiting resource for settlement in the region, Nipomo Creek and its tributaries probably served as important focal points for early settlement. In the transitional zone between Nipomo Mesa and Nipomo Valley, the oak and grassland communities provided a variety of important food resources such as acorns, seeds, and game animals such as deer, rabbit, and other small rodents.

Historic and recent uses of the region reflect variation in landform. The sandy sediment of Nipomo Mesa is not optimal for growing many crops, but is suitable for cattle grazing. The alluvial sediment of Nipomo Valley east of Nipomo Creek is suitable for farming. The prehistory and history of the region attests to the effects of changing environmental conditions on the economic and social adaptation of the local residents.

Prehistoric Setting. Changing conditions during the past 10,000 years provided both opportunities and constraints to local settlement. The first settlement in California occurred as the previous Ice Age

ended approximately 10,000 years ago. The descendents of this initial colonization may have lived in the region through the time of European contact (Golla 2004). Prior to roughly 6,650 years ago, inhabitants of coastal California relied heavily on marine resources and seeds (Greenwood 1972; Jones et al. 2002; Rick et al. 2001). Rising sea level following the end of the Ice Age created productive estuarine environments along which these groups often clustered. The local inhabitants possessed a way of life quite distinct from contemporaneous big-game hunters of the Great Plains. Between 6,650 and 3,350 years ago, sea level rise slowed, estuaries shrank, and the climate grew drier. In order to survive, coastal groups changed their subsistence focus, and this is reflected in technological changes (Glassow et al. 1988; Glassow 1991, 1996). Groups gathered acorns and hunted more big-game animals. Between 6,650 and 1,000 years ago, population levels fluctuated. Extended drought and other environmental changes caused the abandonment of many central California coastal sites by AD 1300 (Jones and Fernau 2004). Human groups began to rely more on terrestrial resources, and settlements were found more often at inland localities. Population levels nevertheless peaked prior to the initial European settlement in 1772.

Ethnographic Setting. At the time of European contact, the Chumash inhabited the project area. The Chumash occupied the California coast from Malibu north to Estero Bay and San Luis Obispo, the adjacent inland region east to the edge of the Central Valley, as well as the northern Channel Islands (Kroeber 1925:551). The Chumash language is from the Hokan language family and is similar to Salinan, Pomo, Washo, Yana, Shasta, and Karok groups to the north, and to Yuman groups to the south. The Takic, or "Shoshonean" language group to the south separates the Chumash from the Yuman, while to the north the Penuatian language group separates the Chumash from the northern Hokan speakers.

The word "Nipomo" is from the Obispeño Chumash word *nipumu'*, meaning house place, or village (Gudde 1998:262). The Rancho Nipomo land grant was near the Chumash rancheria, Nipomo, mentioned in the records of La Purisima Mission between 1799 and 1822 (Gudde 1998). The proposed project is located on land once part of Rancho Nipomo.

So few Chumash remained when ethnographic information was being recorded that much of what was once common knowledge was never recorded. As Kroeber (1925:550) states: "There is no group in the State that once held the importance of the Chumash concerning which we know so little." What is known about the Chumash is that they were hunter-gatherers who moved between summer and winter residences. They were also known to have relied on flexible social ties to adapt to their environment and to limited differences in status and authority. The rough coast of the region north of Point Conception prevented the local Chumash from using plank canoes, one of the major technological achievements for which they are known in the Santa Barbara area.

Historic Setting. Like the local Chumash, European settlers faced environmental and social challenges after they arrived in the region. Periodic drought had a particularly devastating impact on these settlers. The historical and archaeological record attests to the success of settlers in the area in responding to environmental challenges.

European settlement of the area began in earnest with the establishment of the first local mission in San Luis Obispo in 1772. The missions formed part of Spain's strategy for ensuring its control of Alta California, an area which roughly encompasses the modern California coast. Over the next 70 years, the missions of San Luis Obispo County developed successful ranching and farming operations,

although they failed to create a viable community of converts among the local native groups. The Spanish Mission period ended when Mexico won its independence from Spain in 1821.

The Mexican government acted quickly to undermine the power and wealth of the California missions by granting their property to private landowners, instead of to the natives who were supposed to inherit the land and property. Between 1833 and 1846, Mexican governors distributed approximately 700 land grants in California (Cleland 1975). It was during this time that William G. Dana, an American sea captain and cousin of author Richard Henry Dana, married Maria Carrillo and eventually became a Mexican citizen. In 1837, he was granted the 11 square league (37,888 acre) *Rancho Nipomo* by Mexican Governor Juan Bautista Alvarado (McK.Shumway 1988:80; Dana and Harrington 1999). In 1868, the United States patent, or rights to this grant, was also made to William G. Dana. The Willow Road project area is located within a portion of what was once *Rancho Nipomo*.

Cattle, and later sheep, were raised on the ranch, which survived turbulent times. The ranch withstood the decline of the cattle market in the 1850's, the floods and droughts of the 1860's, collapse of the wool market in the 1870's, and the drought years of the 1870's.

After 1881, however, Dana's heirs granted permission for the Pacific Coast Railroad to build a track across the rancho lands and sold various portions of the ranch to other individuals (Dana and Harrington 1999; Nicholson 1993). Some of the smaller lots near the rail line became part of the town of Nipomo, which was laid out in 1889 (Gudde 1998:262). The construction of the rail line composed part of a flurry of construction that created a solid transportation infrastructure linking the northern and southern ends of the county and providing access to sea transport.

Despite this development, agriculture was still the dominant economic activity, and is still a major economic force today. Bean farming briefly flourished on the Nipomo Mesa during the First World War (Krieger 1990). The federal government bought these hardy staples in order to feed its allies. Currently, however, citrus orchards, vegetable farms, and cattle ranches can be found around Nipomo.

Methods for Identification of Existing Cultural Resources. Research for the proposed project occurred in several stages. In the first stage, background research was conducted to determine the extent of previous work within the project area. A record search was conducted at the Central Coastal Information Center (CCIC) of the California Historical Resources Information System at the University of California, Santa Barbara, on June 6, 2003. CCIC staff provided documentation of all recorded historic and prehistoric cultural resource sites within a one-mile radius of the project area, as well as a review of known cultural resource survey and excavation reports. In addition, CCIC staff examined the National Register, California Register of Historic Resources (California Register), California Historical Landmarks, and California Points of Historical Interest listings for listed sites within the project area. They also inspected the Historic Properties Directory for the project area.

As part of the background research for this project, consultation was conducted with local Native Americans regarding this project. The following individuals and groups were contacted: Chief Joseph Ballesteros, Chumash/Salinan; Beverly Salazar Folkes, Chumash/Tataviam/Fernandeño; Santa Ynez Band of Mission Indians, Chumash; Puilulaw Khus, Chumash; Julie Lynn Tumamait, Chumash; Lei Lynn Odom, Northern Chumash Council; Chief Mark Steven Vigil, San Luis Obispo County Chumash Council; Peggy Odom, Chumash; Diane Garcia Napoleone, Chumash; Santa Ynez Tribal

Elder's Council, Chumash; Randy Guzman-Folkes, Chumash/Tataviam/ Fernandeño/Shoshone Paiute/Yaqui; and Mary E. Trejo, Chumash. Several of these contacts recommended that Native Americans be present to monitor ground-disturbing activities within the project area. They did not, however, have any specific concerns about the project.

The background research identified 21 archaeological sites within one mile of the project area. Of these resources, four sites—CA-SLO-1319H, CA-SLO-1620, CA-SLO-1767, and CA-SLO-2133—exist in the project limits. These four sites have also been the subject of evaluation during the course of environmental review for other development projects in the area.

In the second stage, an intensive pedestrian survey of the maximum project limits and a 200 ft (61 m) buffer was conducted. The pedestrian survey was conducted between August 20 and 25, 2003. This survey encompassed the entire project limits. While the survey examined the surface for traces of cultural resources including archaeological and historic sites, sites could have been buried by locally shifting sands within Nipomo Mesa. In order to identify buried sites and the potential for buried sites, on January 25, 2005 a series of three backhoe trenches was excavated in the interchange portion of the project just west of US 101. The potential for buried resources was based on the degree of sediment development and sediment stability evident in the trench profiles.

These survey methods found a number of cultural resources within and adjacent to the project limits. The location of three of the four previously identified cultural resources (CA-SLO-1319H, CA-SLO-1620, and CA-SLO-1767) was successfully confirmed, but the survey did not confirm the location of CA-SLO-2133. CA-SLO-2133 is buried just below the modern ground surface by the sands of Nipomo Mesa (Gibson and Parson 1997). Geoarchaeological backhoe trenching indicated sediment has been stable within the project limits for at least 10,000 years, indicating that sites buried deeper than 1.8-2.4 meters (6-10 ft) are unlikely to exist in this area. Within the boundaries of the project limits, one new archaeological site, CA-SLO-2271, was found. A 1950's-era home was also identified in the vicinity of the project. Previous research at several of the archaeological sites have already evaluated their significance. When necessary, additional research was conducted to determine the significance of the other resources.

Evaluation of Cultural Resources. CA-SLO-1319H is the remains of the Pacific Coast Railroad railbed. This site occurs at the eastern edge of Nipomo Mesa. JRP Historic Consulting Services (JRP) evaluated a different section of the same railroad berm and found it ineligible for listing on the National Register and the California Register (JRP 1997). JRP found the specific section of railroad berm under study to lack integrity of setting, design, materials, workmanship, feeling, and association. They also noted that lack of integrity appears to exist for the entire railroad alignment (JRP 1997:12). During the course of the survey conducted for this project, archaeologists observed the berm but found no ties or spikes, and they did not find any other archaeological remains associated with the railroad (Pletka and Pletka 2003). A pipeline has been constructed down the center of the berm. The segment of the railroad berm within the project area is lacking in integrity. It does not appear to be eligible for listing on the California Register, so it does not appear to be an historical resource for the purposes of CEQA (Marvin 2004).

CA-SLO-1620 also occurs near the eastern edge of Nipomo Mesa. Gibson and Parson (1997) excavated 20 shovel test pits (STPs) across the site and one test excavation unit. This site consists of a dense concentration of lithics and is evidence for on-site production of stone tools made of Monterey

chert. These artifacts indicate that tool makers engaged in the early stages of manufacture for projectile points and knives. Some fire-altered rock and ground stone, such as lightly used manos, have also been found at the site. Artifacts were found to a depth of over one meter below the current ground surface, and exist in an area measuring 90x70 m (295x230 ft) with greatest length in the northwest to southeast direction. Based on the test excavation results, Gibson and Parson (1997) concluded that the site could address important research questions related to such topics as subsistence, settlement, and exchange. This site is eligible for listing on the California Register (Gibson and Parson 1997).

Gibson and Parson's (1997) determination of site eligibility at CA-SLO-1620 was based on quantities of lithic debitage, flaked and ground stone tools, fire-affected rock, bone, shell, and charcoal fragments from what was referred to as the "medium-high" density 90x70 m area of the site. In peripheral areas of the site to the south and west, only small quantities of lithic debitage were found in "medium-low-trace" density areas. Medium-low-trace density areas lacked material other than a few flakes, and one burned rock found near the high density area. Importantly, the high density area on which the determination of site importance was based is located north and outside of the current ADI, far north of the northern fence line of C&M Nursery.

CA-SLO-1767 lies within Nipomo Valley. Modern agricultural plowing has disturbed the site, but previous excavations at this site revealed a fairly deeply buried archaeological deposit (Lebow et al. 2001). Most artifacts occurred within the upper 40 cm of the archaeological deposit, but artifacts could be found to depths of 80 cm below the modern ground surface. The site contains a moderate density of Monterey chert debitage, flake stone tools, and ground stone tools. As at CA-SLO-1620, evidence for on-site early stage stone tool manufacture dominates the artifact assemblage. The site covers an area of approximately 8,000 square meters. Based on obsidian hydration dating of seven obsidian flakes, derived from the on-site maintenance of obsidian tools, the site was provisionally dated to the Early Period. A reanalysis of this collection by LSA archaeologists determined that the site is exactly what Lebow et al. (2001) described: a short term camp where tool makers engaged in core reduction for the production of simple flake tools. The absence of a variety of material types, including datable archaeological material, indicates that the site does not have sufficient research potential to make it important. As such, Lebow et al.'s (2001:10.18) original recommendation is valid and the site is not eligible for listing on the California Register.

CA-SLO-2133 is situated near the eastern end of Nipomo Mesa. Gibson and Parson (1997) excavated 20 STPs and two 1x1 m test excavation units at the site. The site is a prehistoric stone artifact scatter measuring 180x80 m (590x262 ft) with greatest length in the north-south direction, and maximum midden depth of one meter below current ground level. The site contains low densities of Monterey chert debitage and some fire altered rock. The debitage indicates that late-stage stone tool production occurred at SLO-2133, later than the initial stage suggested by debitage from SLO-1620 and CA-SLO-1767. Site CA-SLO-2133 may have been a seasonal camp. Based on the test excavation results, Gibson and Parson (1997) concluded that the site could address research questions related to such topics as subsistence, settlement, and exchange. This site is eligible for listing on the California Register (Gibson and Parson 1997).

CA-SLO-2271 lies within Nipomo Mesa. The site consists of at least 11 fragments of legal-sized Pismo clam. The site measures 47x17 m (154x55 ft) with greatest length in the northwest to southeast direction. As part of the research for this EIR, a single large fragment of shell submitted for

radiocarbon analysis resulted in a date of what can be inferred to be ca. 1910, indicating that it was deposited historically. Because the site contains nothing aside from a few pieces of historically deposited clam shell, it exhibits extremely limited research potential and cannot help us to answer important research questions. Thus, the site was determined not to be a unique archeological resource and is therefore, not eligible for listing on the California Register.

A home built in 1952, located at 1112 Pomeroy Road, occurs close enough to the project that potential project impacts to its significance were considered here. This home, while in excellent condition, is a typical California Ranch-style building. Because the building lacks association with significant people or events, is not the work of a master, and will not provide important data relevant to history, it is not an historical resource.

Evaluation of Paleontological Resources. A paleontological literature and record search of the Santa Maria – Nipomo Valley area shows that Pleistocene sediment occurs in and near the project site. This record search also indicated that four fossil localities in the Nipomo area contain late Pleistocene fossils of mammoth, mastodon, and horse. These fossils were all found within 3.2 km (2.0 miles) of the current project.

2. Thresholds of Significance

Criteria for determining the significance of impacts to cultural resources is based on the CEQA Guidelines, the County of San Luis Obispo's Initial Study Checklist, and the Guidelines for nomination of resources to the California Register of Historical Resources. Impacts to cultural and paleontological resources are considered potentially significant if any of the following conditions occur.

- The project disturbs pre-historic resources;
- The project disturbs historic resources;
- The project disturbs any human remains, including those found outside formal cemeteries;
- The project disturbs paleontological resources.

3. Project Impacts

The proposed project will impact a number of cultural resources. While Pleistocene fossils were found within 2 miles of the current project, no known paleontological resources are known to be within the project limits. The records search, review of geologic literature, and the geoarcheological trenching conducted in January 2005, however, indicates that the Willow Road Interchange and Road Extension Project is located on Pleistocene sediments that have a high potential for containing remains of vertebrate fossils at depths below six feet. Therefore nonrenewable paleontological resources could be impacted by project related excavation, particularly at depths below six feet. With implementation of Mitigation Measure G-6, impacts to paleontological resources will be reduced to a level that is less than significant.

Some or all of CA-SLO-1319H, CA-SLO-1620, CA-SLO-1767, CA-SLO-2133, and CA-SLO-2271 lie within the current project limits. Some or all of these sites could be damaged or destroyed by

construction of the proposed project. The nature of impacts does not depend on the construction phase in which they occur.

The project will impact a portion of CA-SLO-1319H, the remains of the Pacific Coast Railroad rail bed. This site, however, is neither an historic resource nor a unique archaeological resource. Consequently, impacts to this site would be less than significant.

The project will impact a portion of CA-SLO-1620. Portions of this site qualify for the California Register but the portions of the site to be impacted during construction do not contribute to its eligibility. Previous testing at this site indicates that the archaeological deposit is sparse in this area, containing little data. Previous determination of site importance was based on an area that is located well outside the project limits. If project work is limited to the western margin of the site impacts to CA-SLO-1620 would be less than significant. Implementation of Mitigation Measure G-1, which requires preparation and execution of an archaeological monitoring plan, will ensure that project construction would not impact the important portions of the archaeological site.

CA-SLO-1767 is not considered to be significant under CEQA because of the results of the reanalysis of lithic artifacts from a previously excavated collection, as well as because the site lacks a variety of material types, including datable material. The site will be completely impacted by proposed construction, but impacts will not be significant since the site is not an important historic resource.

CA-SLO-2133 will be impacted during construction of the project facilities. Consequently, impacts to this site are potentially significant, because the site is considered eligible for listing on the California Register. Impacts to the site can be reduced to a less than significant level with the implementation of Mitigation Measure G-2, a data recovery plan.

The proposed project will impact a portion of CA-SLO-2271. This site does not meet the criteria for listing in the California Register. Projects impacts are therefore less than significant.

The proposed project will have no physical impacts on the house built in 1952 at 1112 Pomeroy Road. The project could, however, have an indirect impact on the visual setting of this house, but this house was determined not to be an historical resource for the purposes of CEQA. Consequently, potential project impacts to this resource are also less than significant.

Besides impacts to known cultural resources, this project also has the potential to impact cultural resources that have not been discovered during the course of previous archaeological surveys, including those conducted specifically for this project. The project occurs in an environmental setting that is quite likely to contain cultural resources. Such resources could have escaped detection because they have been buried by geomorphic processes like flooding or shifting dunes. The intensity of previous investigations within the project area makes the probability of such discoveries relatively low. Impacts resulting from unanticipated discoveries can be reduced to a less than significant level with the implementation of Mitigation Measures G-1, G-3, G-4, and G-5 as prescribed below in Section 5.

4. Cumulative Impacts

The cumulative study area for cultural resources includes areas adjacent to the boundary between Nipomo Mesa and Nipomo Valley, where similar resources are likely to be found. The cumulative projects list presented in Chapter IV indicates that pending development will occur in many parts of Nipomo Mesa, as well as close to the boundary between Nipomo Mesa and Nipomo Valley. The proposed project contributes to incremental cumulative impacts on cultural resources in these areas. Construction of the proposed project will lead to the loss of several historical resources, including CA-SLO-2133. Such sites provide data relevant to understanding how groups settled and utilized the landscape while coping with environmental variability. The proposed project will facilitate other planned development within the region. These planned projects will also impact archaeological sites and other potentially significant cultural resources. Cultural resources, by their nature, are nonrenewable resources. Their destruction precludes using data from them to answer important regional research questions. Consequently, the proposed project will lead to potentially significant direct and indirect impacts on cultural resources. Such potentially indirect significant impacts can be reduced as other development occurs on a project-by-project basis when appropriate mitigation measures are employed. In the case of the proposed project, potentially significant impacts can also be reduced to a less than significant level, so this project will not significantly contribute to cumulative impacts on cultural resources.

5. Mitigation Measures

G-1, Archaeological Monitoring Plan. Prior to initiating construction, the County Department of Public Works shall prepare a monitoring plan with written procedures for archaeological resource monitoring. The County has the responsibility for ensuring that sites to be preserved in place are not impacted by construction activities, for evaluating unanticipated discoveries, and for providing recommendations on the subsequent treatment of such discoveries. This plan shall include procedures for protecting sites that are to be preserved in place and for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of newly-discovered resources as appropriate. As part of the monitoring program, the County shall involve local Native Americans. If the archaeological resources are found and determined to be significant, the County will determine appropriate actions for their exploration and data recovery. The County shall prepare excavated material to the point of identification.

Following the completion of grading, the County Department of Public Works shall prepare a report detailing the results of the monitoring program to be presented to the County Department of Planning and Building. A copy of the final report should also be submitted to the Central Coast Information Center at the University of California, Santa Barbara. The report shall follow the guidelines of the California Office of Historic Preservation (1990) *Archaeological Resource Management Reports* (ARMR). Excavated finds shall be offered for curatorial purposes to the San Luis Obispo County Archaeological Society or another qualified scientific institution.

G-2, Data Recovery Plan. Prior to initiating construction, the County Department of Public Works shall prepare and execute a data recovery plan. The plan shall include a background section discussing the resource, present a research design that addresses important questions, and present appropriate methods for the collection of relevant data. This plan shall follow the guidelines of the

California Office of Historic Preservation (1991). The data recovery plan shall be developed in consultation with the County Department of Planning and Building.

Following the development of the data recovery plan, the County shall conduct the research program described in the plan. The County shall prepare excavated material to the point of identification. Following completion of the field and laboratory work, the County shall produce a report detailing the results of data recovery. A copy of the final report shall also be submitted to the Central Coast Information Center at the University of California, Santa Barbara. The report shall follow the guidelines of the California Office of Historic Preservation (1990) ARMR. Excavated finds shall be offered for curatorial purposes to the San Luis Obispo County Archaeological Society or another qualified scientific institution.

G-3, Pre-Construction Archaeological Workshop. An archaeological workshop shall be conducted at the pre-construction meeting for construction personnel under the supervision of the County Department of Public Works. This workshop shall educate construction personnel about what types of cultural materials may be encountered during construction excavation. A procedure for notification of a qualified archaeologist about accidental discoveries and a communication network shall be developed so that if any suspected cultural materials are unearthed in areas not being monitored, they can be quickly examined and evaluated by qualified archaeologist and appropriate recommendations made. This workshop shall be repeated as needed for construction workers not attending pre-construction meetings and prior to their beginning any grading work.

G-4, Procedure for Handling Unanticipated Discoveries. If any cultural or paleontological material is unearthed during grading or excavation associated with the project, work in that area shall be halted until such material can be examined by the County and appropriate recommendations made.

G-5, Procedure for Handling the Discovery of Human Remains. If human remains are encountered during grading or excavation associated with the project, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of the origin and disposition of the materials pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC). The NAHC will determine and notify a Most Likely Descendent (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The descendent must complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

G-6, Paleontological Resource Impact Mitigation Program. Prior to initiating construction, a County approved project paleontologist shall prepare a Paleontological Resource Impact Mitigation Program (PRIMP) for ensuring that paleontological resources are kept below a level of significance. The PRIMP shall include the following steps:

- The project paleontologist shall prepare a map to show where grading to depths below six feet would occur within Pleistocene formations, which is of primary concern for paleontological resources;

- A trained paleontological monitor shall be present during rough grading below a depth of six feet and within Pleistocene sediments to the final depth of excavation for the entire length of the road alignment. The monitor will be empowered to temporarily halt or redirect construction activities to ensure avoidance of adverse impacts to paleontological resources. The monitor will be equipped to rapidly remove any large fossil specimens encountered during excavation. During monitoring, samples will be collected and processed to recover microvertebrate fossils. Processing will include wet screen washing and microscopic examination of the residual materials to identify small vertebrate remains;
- Upon encountering a large deposit of bone, salvage of all bone in the area will be conducted in accordance with modern paleontological techniques;
- All fossils collected during the project will be prepared to a reasonable point of identification. Excess sediment or matrix will be removed from the specimens to reduce the bulk and cost of storage. Itemized catalogs of all material collected and identified will be provided to the museum repository along with the specimens;
- A report documenting the results of the monitoring and salvage activities and the significance of the fossils will be prepared;
- All fossils collected during this work, along with the itemized inventory of these specimens, will be deposited in a museum repository for permanent curation and storage.

6. Residual Impacts

The proposed project will impact known historic and pre-historic resources. Impacts to CA-SLO-1620 will be reduced to a less than significant level with the implementation of Mitigation Measure G-1. Site CA- CA-SLO-2133 would be adversely affected by the implementation of the project. Impacts to CA-SLO-2133 can, however, be reduced to a less than significant level with the implementation of Mitigation Measure G-2, which calls for data recovery excavation at this site. Upon completion of these measures, residual impacts on cultural resources will be less than significant.

V.H. AGRICULTURAL RESOURCES

1. Existing Conditions

Agricultural Land Uses. The project site contains a variety of agricultural uses, including nurseries, greenhouse operations, and irrigated row crops.

Certain undeveloped areas west of US 101 have been used for dryland grain production in recent years. Certain areas east of Nipomo Creek and west of Thompson Avenue have been the subject of irrigation and crop production. Remaining areas west of Nipomo Creek and US 101 are not in either dryland or irrigated agricultural production, primarily due to existing residential zoning, smaller parcel sizes, and limited water availability.

Undeveloped areas on both the east and west sides of US 101 (east of Hetrick Avenue and west of Thompson Avenue) have also been occasionally used for cattle grazing. A cattle undercrossing is located within the study area under US 101 approximately 1.25 miles north of Tefft Avenue. This under crossing connects two separate ownership parcels. It is only utilized, very rarely, by cattle operators leasing grazing land on both sides of US 101.

Nurseries are, according to the California Food and Agriculture Code, also considered to be agricultural operations. Two nurseries currently operate in the project area: the C&M Nursery, adjacent to and immediately east of US 101, and Pismo Flowers, Inc. (formerly Brand Flowers), a greenhouse/flower growing operation west of Hetrick Avenue and east of Pomeroy Road.

The C&M Nursery currently encompasses a total of approximately 34 acres. The nursery operators propagate and grow both avocado and citrus trees. Their trees are sold to commercial orchardists, farmers, retail nursery outlets (such as Wal-Mart and K-mart), and commercial landscapers. At this time, approximately 50 percent of their tree stock consists of avocados and the remaining 50 percent involves a variety of citrus species. Approximately 20 acres of the property are the subject of a long-term lease with the Canada family. The remaining 10 acres (at the northern end of the nursery) are owned by the nursery.

A major concern to nursery growers is the potential for avocado trees to suffer from avocado root rot (also known as *Phytophtora cinnamomi*). This root fungus is easily spread. Once a tree has been infected, it is no longer legal in California to sell it. The C&M Nursery has been certified by the California Department of Food and Agriculture as being free of avocado root rot. In order to maintain this condition, all soil brought into the nursery is either fumigated with methyl bromide or steam sterilized. In addition, all vehicles entering the nursery area must drive through a shallow pool containing a fungicide intended to kill fungus spores on the tires of entering vehicles.

Pismo Flowers, Inc. operates a commercial flower nursery on approximately five acres located west of Hetrick Avenue and east of Pomeroy Road. Pismo Flowers, Inc. has operated this in-ground cut-flower nursery for the past nine years. They provide cut flowers for commercial use and sale. Prior to their leasing this property, similar nursery operations were conducted at this location.

Agricultural Preserves. There are 10 agricultural preserves within the project area. These preserves were formed pursuant to Chapter 7, Article 1, Section 51200 et.seq. of the California Government Code also known as the California Land Conservation Act of 1965, or the Williamson Act. This legislation allows local jurisdictions (cities or counties) to establish agricultural preserves consisting of existing agricultural or other vacant lands. Through the execution of long-term agreements with the landowner, the land uses of the property are restricted to agricultural or similar endeavors. In return, the land is assessed for tax purposes according to these restricted uses, rather than its "highest and best use." The vehicle for these land use agreements is a rolling term 10- year contract, which means that the contract is automatically extended (renewed) each year under the initial terms of the contract unless either party files a "notice of nonrenewal". If a Notice of Non-Renewal is filed with the local agency, a 9-year nonrenewal process begins and the annual tax assessment gradually increases. At the end of the 9-year nonrenewal period, the contract is terminated.

Figure V.H-1, Agricultural Preserves, shows the location of agricultural preserves within the project area. This figure includes agricultural preserve status, parcel numbers, and acreage totals. As noted on the figure, several of the preserves, parcels 091-301-042 through 091-301-046, and 091-301-033, have Williamson Act contracts that expired. These expired preserves total approximately 207 acres.

The Williamson Act (Chapter 7, Article 6, Section 51290 et.seq.) addresses the circumstance of a public improvement within an existing agricultural preserve. Pertinent sections related to public acquisition of land within agricultural preserves are noted below.

51290. (a) It is the policy of the state to avoid, whenever practicable, the location of any federal, state, or local public improvements and any improvements of public utilities, and the acquisition of land therefore, in agricultural preserves.

(b) It is further the policy of the state that whenever it is necessary to locate such an improvement within an agricultural preserve, the improvement shall, whenever practicable, be located upon land other than land under a contract pursuant to this chapter.

(c) It is further the policy of the state that any agency or entity proposing to locate such an improvement shall, in considering the relative costs of parcels of land and the development of improvements, give consideration to the value to the public, as indicated in Article 2 (commencing with Section 51220), of land, and particularly prime agricultural land, within an agricultural preserve.

51290.5. As used in this chapter, "public improvement" means facilities or interests in real property, including easements, rights-of-way, and interests in fee title, owned by a public agency or person, as defined in subdivision (a) of Section 51291.

51291. (a) As used in this section and Sections 51292 and 51295,(1) "public agency" means any department or agency of the United States or the state, and any county, city, school district, or other local public district, agency, or entity, and (2) "person" means any person authorized to acquire property by eminent domain.

(b) Except as provided in Section 51291.5, whenever it appears that land within an agricultural preserve may be required by a public agency or person for a public use, the public agency or

person shall advise the Director of Conservation and the local governing body responsible for the administration of the preserve of its intention to consider the location of a public improvement within the preserve. In accordance with Section 51290, the notice shall include an explanation of the preliminary consideration of Section 51292, and give a general description, in text or by diagram, of the agricultural preserve land proposed for acquisition, and a copy of any applicable contract created under this chapter. The Director of Conservation shall forward to the Secretary of Food and Agriculture, a copy of any material received from the public agency or person relating to the proposed acquisition. Within 30 days thereafter, the Director of Conservation and the local governing body shall forward to the appropriate public agency or person concerned their comments with respect to the effect of the location of the public improvement on the land within the agricultural preserve and those comments shall be considered by the public agency or person. In preparing those comments, the Director of Conservation shall consider issues related to agricultural land use, including, but not limited to, matters related to the effects of the proposal on the conversion of adjacent or nearby agricultural land to nonagricultural uses, and shall consult with, and incorporate the comments of, the Secretary of Food and Agriculture on any other matters related to agricultural operations. The failure by any person or public agency, other than a state agency, to comply with the requirements of this section shall be admissible in evidence in any litigation for the acquisition of that land or involving the allocation of funds or the construction of the public improvement. This subdivision does not apply to the erection, construction, alteration, or maintenance of gas, electric, piped subterranean water or wastewater, or communication utility facilities within an agricultural preserve if that preserve was established after the submission of the location of those facilities to the city or county for review or approval.

(c) When land in an agricultural preserve is acquired by a public entity, the public entity shall notify the Director of Conservation within 10 working days. The notice shall include a general explanation of the decision and the findings made pursuant to Section 51292. If different from that previously provided pursuant to subdivision (b), the notice shall also include a general description, in text or by diagram, of the agricultural preserve land acquired and a copy of any applicable contract created under this chapter.

(d) If, after giving the notice required under subdivisions (b) and (c) and before the project is completed within an agricultural preserve, the public agency or person proposes any significant change in the public improvement, it shall give notice of the changes to the Director of Conservation and the local governing body responsible for the administration of the preserve. Within 30 days thereafter, the Director of Conservation and the local governing body may forward to the public agency or person their comments with respect to the effect of the change to the public improvement on the land within the preserve and the compliance of the changed public improvements with this article. Those comments shall be considered by the public agency or person, if available within the time limits set by this subdivision.

(e) Any action or proceeding regarding notices or findings required by this article filed by the Director of Conservation or the local governing body administering the agricultural preserve shall be governed by Section 51294.

51292. No public agency or person shall locate a public improvement within an agricultural preserve unless the following findings are made:

(a) The location is not based primarily on a consideration of the lower cost of acquiring land in an agricultural preserve.

(b) If the land is agricultural land covered under a contract pursuant to this chapter for any public improvement, that there is no other land within or outside the preserve on which it is reasonably feasible to locate the public improvement.

Agricultural Soils. According to the Soil Survey of San Luis Obispo County, California, published by the U.S. Department of Agriculture, Natural Resource Conservation Service, several soil associations are present in the project area, as shown in Figure V.H-2, Soils Map. These various soils associations are described below. As noted therein, each soils association possesses a Land Capability Class which is designated by Roman numerals I through VIII. These numerals indicate progressively greater limitations and narrower choices for practical uses. Class I soils have few limitations that restrict their use, while Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices. Both Class I and Class II soils are considered to be "prime" agricultural soils. Class III and IV soils have severe and very severe limitations, respectively, that reduce the choice of plants, require special conservation practices, or both. Class V, VI, VII and VIII soils have severe or very severe limitations that make them unsuited for cultivation and that restricts their use largely to pasture, range, woodland, or wildlife food and cover.

As shown in Figure V.H-2, the Oceano Sand soils associations are found west of Nipomo Creek while the Cropley Clay, Diablo Clay, and Tierra Sandy Loam soil associations are found east of Nipomo Creek. Each soil association is discussed in further detail below.

Oceano Sand. 0 to 9 percent slopes (soil category 184 on Figure V.H-2). This soils association involves "old, stabilized sand dunes" which are formed deposits of wind blown sand. Permeability (i.e., drainage ability) of Oceano soil is rapid and the ability to retain moisture is low. This low water holding capacity creates a high susceptibility to soil blowing and drought. These soils are primarily used for rangeland, urban development, and limited crops (lemons, avocados, strawberries, and Christmas trees) and supports groves of bluegum eucalyptus. This soil provides excellent base material for roadways and structures. This soil association has a Capability Class of IV if irrigated and VI if non-irrigated.

Oceano Sand. 9 to 30 percent slopes (soil category 185 on Figure V.H-2). This soil association also involves "old, stabilized sand dunes" as discussed above. Its permeability is also rapid and its ability to retain moisture is also low. These soils are used for rangeland and also support groves of bluegum eucalyptus. This soil provides excellent base material for roadways and structures. This soil association has a Capability Class of VI in a non-irrigated condition (steeper slopes inhibit the use of irrigation).

Cropley Clay. 0 to 2 percent slopes (soil category 127 on Figure V.H-2). This soil association is formed from alluvial soils. It is deep, moderately well-drained, and is found on alluvial fans and plains. Soil permeability is slow and, as such, available water capacity is high. This soil association is well-suited to vegetable crops, dryland farming with occasional use for irrigated

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FIGURE V.H-1

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Agricultural Preserves Project Limits Geometrics

Willow Road Extension/U.S. 101 Interchange Project

Agricultural Preserves

SOURCE: Geometrics - Rajappan & Meyer Consulting Engineers Inc. and Aerial - County of San Luis Obispo, Ag Preserves - Willow Road Extension Draft EIR (1999)

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crops. Roadways in these soils can require replacement of base material so that subsequent maintenance is minimized. This soil association has a Capability Class of II ("prime" agricultural soil) if irrigated and III if non-irrigated.

Diablo Clay. 5 to 9 percent slope (soil category 129 on Figure V.H-2). This soil association is formed from weathered sandstone, shale, or mudstone. Soil permeability is slow and the available water capacity is moderate to very high. Most of the soils in the area are used as rangeland or for hay crops and small grains, such as barley and oats. Other dryland crops are also well suited to these soils. Roadways in these soils can also require replacement of base material so that subsequent maintenance is minimized. This soil association has a Capability Class II ("prime" agricultural soil) if irrigated and III if non-irrigated.

Tierra Sandy Loam. 2 to 9 percent slopes (soil category 216 on Figure V.H-2). This soil association is formed from old alluvial soils weathered from sedimentary rocks. Soil permeability is very slow, but the available water capacity is low to moderate. It also has a moderate soil blowing hazard. Most of the soils in the area are used for rangeland or for hay crops and small grains. Common crops are grain barley and oat hay. Roadways in these soils require special design due to soil expansion and shrinkage, low soil strength, and slow permeability. This soil association has a Capability Class of III in both the irrigated and non-irrigated condition.

2. Thresholds of Significance

Significance criteria for evaluating project impacts on agricultural resources are based on Appendix G of the State CEQA Guidelines and the County of San Luis Obispo Initial Study Checklist. For purposes of this SEIR, a significant impact upon agricultural resources would occur if the proposed project would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act Contract;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use.

Methods for Evaluating Agricultural Impacts. Project impacts in accordance with these thresholds can be quantified when a project involves the direct impact or removal of prime agricultural lands from production. For this reason, the California Agricultural Land Evaluation and Site Assessment (LESA) model was performed for the project area. The LESA model is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095).

The LESA model is a point-based approach that is generally used for rating the relative value of agricultural land resources. In basic terms, a given LESA model is created by defining and measuring two separate sets of factors. The first set, Land Evaluation, includes factors that measure the inherent soil-based qualities of land as they relate to agricultural suitability. The second set, Site Assessment,

LSA

FIGURE V.H-2

Project Limits
Geometrics
Cropley Clay (127)
Tierra Sandy Loam (216)
Oceano Sand (184, 185)
Diablo Clay (129)

0 500 1,000
Feet

Willow Road Extension/U.S. 101 Interchange Project
Project Area Soils

SOURCE: Geometrics - Rajappan & Meyer Consulting Engineers Inc. and Aerial - County of San Luis Obispo, Soils - San Luis Obispo County for the NRCS - Mapping/Graphics 781-5600 (1999)
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includes factors that are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land.

A single LESA score is generated for a given project after all of the individual Land Evaluation and Site Assessment factors have been scored and weighted. Final project scoring is based on a scale of 100 points, with a given project being capable of deriving a maximum of 50 points from the Land Evaluation factors and 50 points from the Site Assessment factors. Scoring thresholds are based upon both, the total LESA score, and the component Land Evaluation and Site Assessment subscores. In this manner, the scoring thresholds are dependent upon the minimum score for the Land Evaluation and Site Assessment subscores so that a single threshold is not the result of heavily skewed subscores. (i.e., a site with a very high Land Evaluation score, but a very low Site Assessment score, or vice versa). Table V.H-1 presents the California Agricultural LESA scoring thresholds.

Table V.H-1 California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0-30 Points	Not Considered Significant
40-59 Points	Considered Significant only if Land Evaluation and Site Assessment subscores are each greater than or equal to 20 points
60-79 Points	Considered Significant unless either Land Evaluation and Site Assessment subscores is less than 20 points
80-100 Points	Considered Significant

In addition to cultivated or grazed lands, for the purposes of this SEIR, impacts would also be considered significant if major agricultural operations (such as nurseries) are impaired or eliminated.

The County of San Luis Obispo places the utmost importance on preserving agricultural lands. The County's efforts to this extent are outlined on page 1-1 in the Agriculture and Open Space Element of the San Luis Obispo County General Plan (General Plan) and are geared toward "identify[ing] those areas of the County with productive farms, ranches and soils, and establish[ing] goals, policies, and implementation measures that will enable their long-term stability and productivity".

Agricultural Policy number 24 of the Agriculture and Open Space Element of the General Plan is an attempt to discourage the conversion of agricultural lands to non-agricultural uses. This section states that land proposed for conversion from agricultural to non-agricultural designations should be consistent with certain findings, including: "the conversion to non-agricultural uses shall not adversely affect existing or potential agricultural production on surrounding lands that will remain designated Agriculture"; and "there is an over-riding public need for the conversion of the land that outweighs the need to protect the land for long-term agricultural use...". Therefore, for the purposes of this SEIR, an impact would also be considered significant from the county's perspective if existing agricultural operations are impaired or eliminated without an over-riding public need for the proposed project.

3. Project Impacts

Agricultural Land Uses. The proposed project will traverse areas currently being devoted to a variety of agricultural uses including dryland and irrigated farming, nurseries, and greenhouse operations. Overall, the proposed project will not have a significant impact on agricultural lands. This determination is supported by the conclusions derived from the LESA analysis (see Volume III, Appendix I). The project's final score in the LESA analysis was 41. The subscore for the Land Evaluation factors were 25.1 and the subscore for the Site Assessment factors were 15.9. As listed in Table V.H-1, a total final score of 40 to 59 is considered significant only if Land Evaluation and Site Assessment subscores are each greater than or equal to 20 points. Because the Site Assessment subscore is less than 20, the final score is not significant and therefore it can be concluded that the proposed project will not have a significant impact on agricultural lands.

The proposed Willow Road extension between Pomeroy Road and Hetrick Avenue will pass approximately 800 feet north of the existing greenhouse operations of Pismo Flowers, Inc. Because this nursery operation lies south and outside of the proposed Willow Road alignment it will not be impacted by the proposed project.

East of US 101, the proposed project (northbound US 101 off ramp to Willow Road) cuts through the northern corner, approximately 0.73 acre, of the existing C&M Nursery. This portion of C&M Nursery is being used for soil fumigation and as a container storage area. According to the 1999 FEIR, the nursery manager confirmed that these uses can be relocated without a significant effect on the nursery operation. Therefore, the impact of the proposed project on C&M Nursery is considered to be less than significant.

The proposed Willow Road extension will pass about 250 feet north of an existing cattle undercrossing east of US 101. The proposed road extension will not impact the cattle undercrossing. However the proposed US 101 interchange would impede cattle crossing because the proposed on- and off- ramps will traverse the paths leading to the cattle undercrossing. Although the cattle under-crossing is used only on occasion, cutting off access to it is a significant impact. If cattle operators are using the undercrossing at the time the interchange is proposed for construction or foresee that they will continue to use the undercrossing in the future, the County should provide a separate unpaved access to the cattle undercrossing in order to maintain this connection. If the cattle operators are provided access to the undercrossing should they request it, impact to the cattle undercrossing will be less than significant.

Agricultural Preserves. Project facilities will be located within or adjacent to existing Williamson Act Agricultural Preserves (see Figure V.H-1, Agricultural Preserves) and will traverse areas containing potentially prime agricultural soils (when irrigated).

As indicated in Figure V.H-1, Agricultural Preserves, the proposed Willow Road alignment and the US 101 interchange between Hetrick Avenue and US 101 runs along the southern boundary of five separate agricultural preserves, totaling approximately 200 acres. All five of these preserves (parcels 091-301-042 through 091-301-046), however, have Williamson Act contracts that expired as of January 1, 1996. This expiration means that the agricultural preserve status can be removed from these parcels at any time. The Willow Road alignment is therefore not expected to significantly impact the preserve status of these five parcels west of US 101.

The proposed frontage road alignment runs from the proposed Willow Road extension on the west side of US 101 south to Sandydale Drive. The proposed frontage road does not intersect any agricultural preserves, and therefore, there would be no impacts from the frontage road on any agricultural preserves in the area.

East of US 101 to Thompson Road the proposed project passes through a 0.73 acre portion of the C&M Nursery (as discussed above) and will traverse two existing agricultural preserves (parcel numbers 091-251-017 and 091-301-019). These preserves total approximately 102 acres. The proposed project would have a significant impact on these agricultural preserves.

Although outside of the immediate project boundaries, two additional preserves totaling approximately 188 acres are within 20-1000 feet of the proposed road alignment. The proposed project will not have any direct impacts on these agricultural preserves.

Agricultural Soils. As indicated on the Soils Map, Figure V.H-2, and discussed above, soils designated as Cropley Clay have the potential, if irrigated, to be within Capability Class II, which is indicative of prime agricultural soils. The proposed Willow Road alignment impacts approximately 3 acres of Cropley Clay soils (see Figure V.H-2) in the area between Nipomo Creek and Thompson Avenue. According to the County of San Luis Obispo, Department of Agriculture, this potential loss of prime agricultural soils is a less than significant impact (Personal Communication, Michael Isensee, March 2005).

4. Cumulative Impacts

Direct impacts to agricultural resources, as described above, will be minimal. However, *indirect* or *cumulative* impacts to agricultural resources resulting from the proposed project could be more extensive. Provision of roadways and access facilities similar to those associated with the proposed project can eliminate a potential constraint upon development (i.e., lack of access) and, in turn, can create economic pressures and increased land values. These conditions can potentially hasten the conversion of adjacent agricultural lands and agricultural preserves as well as areas containing prime agricultural soils to developed uses. A detailed discussion of these growth-inducing impacts of the proposed project is provided in Section V.A, Land Use and Planning, and Section IX., Growth-Inducing Impacts.

The proposed project also represents a contributing step in the long-range development of the cumulative projects listed in Section IV Cumulative Projects of this SEIR. Development of these projects could impact agricultural land uses, preserves, and soils found in the project area. If all of the projects from the cumulative projects list are developed, it is likely that there will be a significant cumulative impact on existing agricultural lands and operations. The proposed projects' contribution to the cumulative effect on area development and, in turn, agricultural lands and operations would be considered significant.

5. Mitigation Measures

H-1, Agricultural Vehicle Crossings. The County of San Luis Obispo Department of Public Works shall ensure that, as part of project design, all project roadways which traverse any lands under

cultivation shall provide an adequate number of at-grade agricultural vehicle crossings. These concrete road crossings shall be striped and marked with appropriate signage to warn motorists of the potential for agricultural vehicles on the roadway and shall be located to provide safe vehicle sight distance.

H-2, Williamson Act Notice. Prior to completion of right-of-way acquisition, the County of San Luis Obispo shall prepare all required notices pursuant to Section 51291 of the Williamson Act for any roadways within established agricultural preserves.

H-3, Cattle Undercrossing. Prior to initiating construction, the County of San Luis Obispo Department of Public Works shall contact property owners utilizing the existing cattle undercrossing. If the facility is still in use at that time, the County must provide a separate cattle undercrossing to allow unimpeded access through the interchange. If this is not possible, the County shall purchase the access rights to the cattle undercrossing.

6. Residual Impacts

With proper implementation of the proposed mitigation measures, project-related impacts to agricultural resources, nurseries, greenhouses, and prime agricultural soils will be reduced to less than significant levels.

The proposed project will result in significant, unavoidable adverse project-related impacts to two agricultural preserves (Parcel Nos. 091-251-017 and 091-301-019) as well as contribute a significant cumulative impact on agricultural lands and operations.

V.I. AESTHETICS

This section summarizes the findings presented Chapter V.I of the *Willow Road/Highway 101 Interchange Final Environmental Impact Report*, prepared by Douglas Wood & Associates, Inc. (March 1999: pp. V134-V163). Per the CEQA Guidelines, Section 15150, this EIR incorporates the previous study by reference. Site photographs and visual simulations of the project conditions are contained in the 1999 FEIR.

1. Existing Conditions

There are a variety of land-uses visible from the project area including residences, nurseries, recreational areas, agricultural farmland, and open space. West of Pomeroy Road, there is the Black Lake Golf Course, eucalyptus windrows, existing scattered residential development, and new homes that are currently being developed (the Vellagio Development). Between Pomeroy Road and Hetrick Avenue, land uses include scattered residences, fallow fields, and the Pismo Flowers Nursery. The area between Hetrick Avenue and US 101 is dominated by rural development among open grasslands and pasture lands. North of Cherokee Place, along the west side of US 101, there is a large stand of oak woodland. South of Cherokee Place, along the west side of US 101, are open fields that have been subject to recent dryland farming (the Canada property). East of US 101, views include the C&M Nursery beyond which lies Nipomo Creek, and cultivated farmlands. North of the nursery, between US 101 and Nipomo Creek, there are scattered oak trees and pasture lands. Nipomo Creek can be characterized as a riparian corridor with willows and other wetland vegetation. The majority of land between Nipomo Creek and Thompson Road is cultivated farmlands.

The visual quality of the project area is characterized by the following factors: a) the overall attractiveness of the area; b) the nature and extent of unique visual features including landform, vegetative patterns, and water features; c) other man-made features introduced to a site; and d) the frequency with which the site is viewed from adjacent vantage points. The project area has a medium level of visual sensitivity since many views include relatively undisturbed areas, native vegetation, and mature trees. In addition, the site is very frequently viewed by the large number of motorists utilizing US 101. There are no unique geological or physical features with in the project boundaries.

Automobile headlights from US 101 constitute the primary source of light and glare in the project area. This light and glare can be seen as far east as Thompson Road and as far west as Hetrick Road. Motorists on other roadways and residences also cause light and glare, but to a much lesser extent, as light and glare from these sources are limited to the areas immediately adjacent to the roadways and homes.

2. Thresholds of Significance

In accordance with Appendix G of CEQA Guidelines and the County's Initial Study Checklist, a significant aesthetic impact would occur if the proposed project would:

- Create an aesthetically incompatible site open to public view;
- Introduce a use within a scenic view open to public view;
- Substantially change the visual character of an area;

- Create glare or night lighting which may affect surrounding areas;
- Impact unique geological or physical features.

3. Project Impacts

Construction of the Willow Road extension, US 101 interchange and frontage road (the proposed project) will result in the permanent alteration of the nature and appearance of the project area and its immediate surroundings.

Methodology. The approach used to define visual sensitivity and aesthetic impacts is based upon concepts and methods utilized by several Federal agencies (e.g., U.S. Forest Service and the Bureau of Land Management) who address visual sensitivity of a project as a function of the public's aesthetic values and goals. For this analysis, visual sensitivity and impacts are rated as high, medium or low. High sensitivity exists when the affected views are rare, unique or in other ways special to the region or locale. Medium sensitivity exists when the affected views are secondary in importance or are similar to others in the region or locale. Low sensitivity exists when the public can be expected to have little or no concern about changes in the landscape.

Visual Sensitivity is also analyzed within the context of the viewing distance. Viewing distances fall into two categories: foreground, which is defined as the detailed viewscape in a range of zero to one-half mile from the observer, and background, which is defined as the viewscape in a range of one-half mile or further from the observer. Visual sensitivity ratings (i.e., high, medium, low) are assigned in conjunction with a site's corresponding viewing distance. Defining visual sensitivity involves a degree of subjective evaluation because the nature of a particular viewscape, the number of individuals exposed to the view, and the relative value of it components depend on the perception of the individual.

Long-Term Impacts to Project Area Aesthetics. Proposed project facilities will be within the foreground views of motorists on US 101 as well as residents within one-quarter mile of the proposed roadway and interchange facilities. Views of the project area from US 101 as well as those within a short distance away (within 1/8 of a mile) from US 101 are considered to be of medium sensitivity in that potentially impacted views are similar to others in the region.

Extension of Willow Road and the provision of a frontage road will result in the addition of a two lane 54-foot wide paved roadway and a 40-foot wide paved frontage road. The provision of an unlit, two-lane paved roadway is not considered to represent a significant aesthetic impact. The proposed US 101 interchange represents a more significant visual influence on the area.

The proposed US 101 interchange will be visible primarily to motorists utilizing this thoroughfare, the proposed frontage road, or to residents in nearby areas. The proposed interchange facility, however, is being configured as an undercrossing rather than an overcrossing. An undercrossing configuration will significantly reduce the aesthetic impacts of the interchange by eliminating the facility from the foreground view of motorists on US 101 as well as from the background views of residents and other individuals within the surrounding areas.

The visual impact of this interchange facility must be judged not only in terms of its appearance but also by the high number of persons viewing this facility. A significant number of motorists using US 101 (tens of thousands) will experience the visual interruption. Although interchanges are provided throughout the region, including as close as 1.3 miles to the south and 1.5 miles to the north, an additional freeway interchange will represent a permanent change in the unobstructed, rural views of the project area from US 101. Therefore, the proposed US 101 interchange represents a potentially significant impact upon views to motorists using US 101. The proposed interchange is also within the US 101 Design Corridor which attempts to minimize impacts to scenic foreground and background views from US 101. The visual impact of the highway interchange can be reduced or "softened" through the planting of vegetation on graded slopes surrounding the interchange facility (see Mitigation Measures below). There are no unique geophysical features in the project area that would be affected by the proposed extension of the roadway or construction of a new interchange at US 101.

The proposed project will result in the removal of oak woodland habitat and a large number of individual oak trees particularly immediately west of US 101. As indicated in section V.F Biological Resources, up to 938 oak trees could be impacted by the extension of Willow Road, the US 101 interchange, and the proposed frontage road. Although pockets of existing oaks maybe preserved in final design (north and south of the Willow Road underpass of US 101), this estimate of potential loss of trees is a worst – case for CEQA purposes. This loss of oak trees is considered a potentially significant visual impact given their visibility from US 101 and their visual contribution to the landscape of the area. This potentially significant visual impact can be mitigated by replacing oak trees in the vicinity of the project-related tree loss in order to visually screen the roadway. Tree replacement should also meet San Luis Obispo County standards as specified in Mitigation Measure F-15 (See section V.F. Biological Resources). In addition, Mitigation Measure F-16 will be required to create, conserve and enhance native habitat areas removed by the proposed project.

The extension of Willow Road over Nipomo Creek will also result in the removal of riparian vegetation at this location. However given the lower elevation and resulting lack of visibility of this area combined with the relatively small area of disruption (less than one acre), this visual impact of the proposed roadway extension over Nipomo Creek is not considered a significant aesthetic impact. Visual impacts to these riparian habitats will also be mitigated through the required provision of replacement habitats and through implementation of Mitigation Measure F-17 (see section V.F Biological Resources).

Light and Glare. Construction of the proposed project has the potential of adding night lighting which may generate additional light and glare in the project area. Sources of nighttime lighting include automobile traffic along the project roadways and intersection lighting at the proposed interchange. The intermittent nature of automobile traffic on project roadways is not considered to represent a significant addition to light and glare in the area particularly in comparison to the existing, more constant light and glare levels generated by traffic on US 101. Nighttime traffic on US 101 represents the largest source of introduced nighttime lighting in the project area. Lighting of intersections adjacent to the US 101 interchange will represent an additional constant light source to the area (the interchange itself will not be lit). These permanent light sources will be adjacent to the highway. The impacts of this intersection lighting are considered to be potentially significant but must be considered within the context of existing nighttime light sources in the area.

The lighting of the US 101 interchange will be confined to on/off ramp signage and standard intersection lighting. Although it is acknowledged that the interchange will be primarily viewed by motorists on US 101, lit interchanges are an expected part of the "visual landscape" of any freeway. As such, additional lighting (ramp signage, intersection lighting) is not considered to represent a significant additional light and glare impact. In addition, the use of downward directed lighting while still visible at nighttime further reduces potential light and glare impacts by preventing upward and side illumination (see Mitigation Measure I-2, I-3 and F-20 in Section V.F. Biological Resources). In addition, the interchange configuration, proposed as an undercrossing, will significantly reduce light and glare impacts in that required lighting will be below or at the existing freeway elevation rather than elevated over the existing highway.

Short-Term Construction Impacts. Construction of the proposed project facilities will result in short-term visual impacts by disrupting the existing surface appearance. Short-term construction impacts would consist of grading activities and construction of proposed interchange structures. Impacts to views of the area during project construction are considered to be less than significant due to the short-term nature of construction activities and the relatively small area of disruption which will be constructed in phased sections.

4. Cumulative Impacts

The Willow Road Extension/US 101 Interchange project will create a potentially significant cumulative impact since the interchange and road will change the visual appearance of the project area and introduce additional nighttime lighting. In addition, the project contributes to the long-range development of cumulative projects anticipated for the area. Development of these projects would further impact the visual appearance and light and glare conditions in the project area.

5. Mitigation Measures

I-1, Revegetation Plan. All slopes and areas disturbed by grading for any proposed project facilities shall be planted with drought resistant vegetation immediately following construction. A Re-vegetation Plan shall be prepared for approval by the County of San Luis Obispo, Department of Planning and Building prior to project grading. This plan shall specify the type and location of re-vegetation for all slopes and areas disturbed by grading for any of the project facilities. Larger shrubs and trees shall be planted in groupings or clusters in the vicinity of US 101 in order to buffer views from the freeway and to shield external views of the proposed interchange facility while also providing adequate line-of-sight for motorists. Sufficient topsoil will be stockpiled for use in all re-vegetation areas. The re-vegetation is intended to buffer views of project facilities while also providing adequate line-of-site for motorists. The location and type of vegetation are also important in screening facilities while also maintaining scenic background views.

I-2, Project Lighting. All project lighting shall comply with requirements of the County of San Luis Obispo while also conforming to the type of lighting and extent of illumination currently employed by the California Department of Transportation. To the extent allowed, illumination levels and light standard heights shall be as low as possible while still providing for adequate safety. The number of street lights designed for project roadways shall be minimized to reduce potential light and glare

impacts while providing required illumination for access and safety. Lighting plans shall be included in the project design plans to be reviewed by the County Department of Planning and Building.

I-3, Downward Shielding of Light Sources. All street and interchange lighting shall be designed in a manner which orients light downward and is shielded to prevent upward and side illumination. Where possible, all exterior lighting should involve low pressure sodium vapor lamps or equivalent lighting technology which reduces potential excess light and glare.

6. Residual Impacts

Implementation of the prescribed mitigation measures will reduce potential project-related aesthetic and light and glare impacts to less than significant levels. Mitigation Measures I-1 through I-3 and F-15 through F-17 and F-20 in Biological Resources will reduce the proposed project's incremental contribution to the change in the area's visual appearance and additional night time lighting. After implementation of mitigation measures, the residual incremental contribution of the project to the area's visual character and night time light would not create an aesthetically incompatible site given the existing road network (public and private) along the project alignment. The new interchange would add additional infrastructure (a new use) to the existing US 101 infrastructure; however this view would not be considered a scenic view, particularly since Willow Road would be an underpass of US 101. Therefore, with project specific mitigation measures the project's contribution to the cumulative aesthetic visual environment would be reduced to less than significant.

V.J. GEOLOGY AND SOILS

This section summarizes the findings presented Chapter V.J of the *Willow Road/Highway 101 Interchange Final Environmental Impact Report*, prepared by Douglas Wood & Associates, Inc. The topic of mineral resources has been included in this section consistent with the current County Initial Study Checklist issues to be addressed. (March 1999: pp. V164-V175)

1. Existing Conditions

Topography. The project area lies on a coastal plain, which slopes gradually from east to west. Most of the project site lies within the Nipomo Mesa, an area of dune deposits that form smoothly eroded hills and shallow linear valleys. As the project approaches Nipomo Creek, the topography slopes gently downward toward the creek.

Geology. The project area lies within the Coast Ranges Geomorphic Province. Fault-bounded mountain ranges, trending northwest to southeast, characterize this region. The tectonic bedrock underlies the project site, although it lies exposed at spots within the region. Thick marine and non-marine sedimentary rocks overlie the bedrock. Unconsolidated sediments typically occur at the surface. Dune sands are the most common of these sediments, although fluvial and other sediments are more common to the east of Nipomo Creek and US 101.

Soils. Dune sand deposits, ranging from 70 to 80 feet in thickness within the project area, underlie Nipomo Mesa. Oceano Series soils (0 to 9 percent slope and 9 to 30 percent slope) form on these deposits (see Figure V.H-1). These soils are excessively drained. Oceano Series (0 to 9 percent slope) have a slight to moderate erosion potential during wet years, forming gullies. Similarly, Oceano Series (9 to 30 percent slope) have a moderate to severe erosion potential during wet years. Vegetative cover reduces the risk of erosion.

Alluvial deposits occur adjacent to Nipomo Creek and its tributaries. Cropley Clay (0 to 2 percent slope) and Cropley Clay (2 to 9 percent slope) develop within these deposits, Cropley Clay (2 to 9 percent slope) occurring closer to Thompson Avenue (see Figure V.H-1). These soils develop on alluvial fans. They are very deep and moderately well drained. They exhibit clays that are approximately 36 inches thick. They have slow permeability, but surface runoff is slow to moderate, increasing with slope. Consequently, erosion potential is generally low. These soils are highly expansive.

Along the low stream terrace bordering Nipomo Creek on its northern side, Tierra Sandy Loam (2 to 9 percent slope) series soil occurs (see Figure V.H-1). This soil forms on hills and dissected terraces in old alluvium weathered from sedimentary rocks. Tierra soils are deep and moderately well drained. Soil permeability is very slow, but the available water capacity is low to moderate. It also has a moderate soil blowing hazard.

Gently sloping foothill areas with relatively shallow bedrock occur toward the southern end of Thompson Road. At this location, Undifferentiated Diablo Clay (9 to 15 percent slope) develops (see Figure V.H-1). This soil type is deep, well drained, and has slow permeability. Surface runoff is medium with a moderate erosion potential. This soil is highly expansive and prone to debris flow failure.

Hydrogeology. Ground water should occur at the depth of bedrock, which is as much as 70 to 80 feet beneath the ground surface locally. Local areas of shallow bedrock or perched water may occur, particularly near Nipomo Creek during and after the rainy season. Historically, springs and shallow groundwater existed within the alluvial deposits near Nipomo Creek.

Seismicity. The project area does not lie within any fault rupture zones Significant faults do occur within the region (Douglas Wood & Associates, Inc. 1999: V168), and could produce moderate to strong ground shaking at Nipomo Mesa. The potentially active Wilmar Avenue fault also crosses the project area as do structural benches related to the potentially active Oceano fault.

Mineral Resources. There are no existing mineral extraction operations in and adjacent to the project site.

2. Thresholds of Significance

Appendix G of the State CEQA guidelines and the County of San Luis Obispo Initial Study Checklist state that a project will have a substantial adverse effect, including the risk of loss, injury, or death if the project exposes people or structures to the following conditions.

- The project is within a California Department of Mines and Geology Earthquake Fault Zone;
- The project exposes people or structures to strong seismic ground shaking;
- The project exposes people or structures to seismic-related ground failure, including liquefaction;
- The project exposes people or structures to landslides;
- The project exposes people or structures to the results of substantial soil erosion or the loss of topsoil;
- The project would change rates of soil absorption, or amount or direction of surface runoff;
- The project lies on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating a substantial risk to life or property; or
- The project is inconsistent with the County's Safety Element related to Geologic and Seismic Hazards;
- The project lies within the 100-year flood zone;
- The project changes the drainage patterns where substantial on- or off-site sedimentation/erosion or flooding may occur;
- The project would preclude the future extraction of valuable mined resources.

3. Project Impacts

Surface Fault Rupture. Faults may occasionally cause displacement of the ground surface. Within the project area, the Wilmar Avenue fault reaches the surface near Nipomo Creek and crosses the proposed extension of Willow Road (Douglas Wood & Associates, Inc. 1999: V168). This fault is a "blind" reverse fault, a type for which the potential for surface rupture is thought to be low. A major

earthquake on the fault in this area could, however, cause warping and fracturing of the ground surface. This fault is the only one within the project area likely to pose potential threat of surface rupture. Because of the low probability of rupture, potential impacts related to surface rupture along this fault are not significant. The proposed project design will nevertheless be required to meet all applicable County and State standards (see Mitigation Measures J-1 through J-3).

Regional Uplift and Tilting. Offset along faults within the eastern and western ends of the project could produce uplift and/or tilting of the roadway. The probability of such offset is quite low, and the effects of this tilting would be minor. Uplift and tilting could crack pavement and structural sections, creating a minor threat to public safety. These effects are easily repaired. The impacts attributable to uplift and tilting are therefore not significant.

Seismic Activity. Severe ground shaking will occur within the project area if an earthquake of great magnitude occurs on one of the nearby active or potentially active faults. The incidence of major earthquakes near the project area can not be reliably predicted. Nevertheless, a major earthquake is likely to occur within the life of the project. The effects of such an event include cracking of the roadway and structural sections and slumping of slopes near the US 101 interchange. These events occur infrequently, so they pose a minor threat to public safety. When seismic activity occurs, impacts resulting from it are potentially significant. The impacts can be mitigated to a level that is less than significant with the implementation of Mitigation Measures J-1 and J-2.

Differential Consolidation and Seismic Settlement. Seismic ground shaking can cause sediments to settle several inches. Such settlement particularly affects sands and silts of loose to medium density. Differential consolidation and seismic settlement may crack or warp roads. Differential settlement will be most evident in areas where soil characteristics vary greatly within relatively small areas. While Nipomo Mesa contains sandy soils, soil characteristics remain uniform throughout the portion of the Mesa located to the west of US 101. Soil characteristics vary more to the east of US 101 (see Figure V.H-1), where sandy Oceano and Tierra series soils lie adjacent to Cropley Clay soil. Consequently, differential consolidation is likely to be greater in this area. Such problems can be easily addressed through routine road maintenance, so this impact is not significant.

Liquefaction and Lateral Spreading. Saturated or nearly saturated soils may compress and lose shear strength when shaken during an earthquake. The loss of shear strength can cause the soil to behave as a viscous fluid rather than as a particulate solid, causing structures to sink or contort. Loss of shear strength can also create large fissures to occur along unsupported slopes, which can pull apart structures resting in the affected soils. Loose, fine or medium grained, well-sorted sands are particularly prone to such behavior when saturated, although other sediment types may also act in this fashion. Ground water likely occurs at depths of 70 feet or more throughout most of the project area, which obviates the potential for liquefaction. Liquefaction typically occurs only in places where the ground water exists within 50 feet of the ground surface. Localized areas of perched ground water do exist in some spots, however. The occurrence of these conditions within the project area must be determined from design-level geotechnical investigations. The potential impacts of liquefaction and lateral spreading can be reduced to a less than significant level with the implementation of Mitigation Measures J-1, J-3, and J-4.

Soils. Soil characteristics can affect the project in two different ways. Soil collapse, although unlikely given the nature of the local soils, can cause structures and roadway facilities to sink or

contort. Expansive soils may repeatedly expand and contract, damaging structures (and pavement) that rest on them. The only expansive soils within the project site are the Cropley Clay series soils (Figure V.H-1). The potential impacts of expansive soils can be mitigated to a less than significant level with the implementation of Mitigation Measures J-5 and J-6.

Landsliding. The Landslide Risk Map of the San Luis Obispo County Seismic Element characterizes the project area as one of "negligible risk". A geologic survey of the project area produced no evidence of landslides, and therefore, the potential for natural landslides is very low. Cut and fill slopes created during construction of the proposed project could, however, create conditions conducive to landslides. Landslides could temporarily block roads and destabilize road embankments, creating a possible minor threat to public safety. Impacts resulting from landslides can be mitigated to a less than significant level with the implementation of Mitigation Measure J-7.

Erosion. Dunes to the west of US 101 readily erode when their vegetative cover is disturbed, such as during construction. Sand blowing across the roads as a result of this erosion can reduce visibility to hazardous levels and require frequent clearing of the road. This impact is potentially significant, but can be reduced to a less than significant level with the implementation of Mitigation Measures J-8 and J-9.

Mineral Resources. Since no mineral extraction activities are currently operating in the immediate project area, and no commercially valuable mineral resources are known to exist in the project area, (the designated land uses along the project alignment are residential rural, recreation and agriculture per the General Plan), the proposed project would not preclude the future extraction of valuable mineral resources.

4. Cumulative Impacts

The proposed project accommodates planned development. The cumulative projects study area comprises Nipomo Mesa and Nipomo Valley, which possess distinctive geologic features. Most of the projects on the cumulative projects list presented in Chapter IV occur on Nipomo Mesa. The projects on this list face potential hazards resulting from seismic activity, such as seismic ground shaking, since the projects on the list would be affected by the same faults as affect the proposed project. Similarly, the projects on the cumulative projects list may create wind blown sand or expose people and structures to the risks of soil expansion, depending on whether the projects occur on Nipomo Mesa or in clay soils to the east of the Mesa. Because planned development will occur in these areas regardless of the presence of the proposed project, the proposed project does not affect the likelihood that people or structures experience such geologic hazards. The proposed project thus does not significantly contribute to the cumulative impacts resulting from geologic hazards. These impacts are project-specific and can be mitigated to less than significant levels on a project -by- project basis.

5. Mitigation Measures

J-1, Conformance to Applicable Standards. Project design and grading plans prepared by the Project Engineer shall conform to applicable County and State Construction Standards for roads and bridges. These standards must be implemented in the plans prior to County approval of the final plans, specifications, and estimates (PS&E).

J-2, Project Design Assumptions. Project design shall assume that project facilities will be exposed to ground shaking commensurate with a Maximum Credible Earthquake. These design specifications shall be incorporated in the design plan prepared by the Project Engineer prior to County approval of the PS&E.

J-3, Recommendations of the Geotechnical Engineer. The recommendations of a design-level geotechnical investigation performed by a qualified Geotechnical Engineer shall be implemented in the design plan prepared by the Project Engineer prior to County approval of the final PS&E. These recommendations will include detailed geologic investigations related to liquefaction, lateral spreading, and collapsible/expansive soils.

J-4, Mitigation of Potentially Liquefiable Soils. If areas of potentially liquefiable soils are identified during design-level geotechnical investigations, appropriate design measures shall be implemented in the design plan prepared by the Project Engineer prior to County approval of the final PS&E. These design measures will include:

- Realign interchange to avoid liquefiable soil;
- Elevate the roadway on a compacted fill embankment; or
- Densify liquefiable soils by accepted ground improvement methods including deep dynamic compaction or installation of stone columns.

Any project design modifications that expand the physical area of effect beyond the project limits as defined in this EIR will require subsequent environmental review and analysis by the County to conform to the requirements of CEQA.

J-5, **Mitigation of Potentially Collapsible Soils.** If any potentially collapsible soil is identified during design-level geotechnical investigations, the affected area shall be temporarily flooded with water by the Project Engineer or Project Contractor to induce collapse before construction. This requirement shall be shown on all applicable construction plans.

J-6, Mitigation of Potentially Expansive Soils. If any potentially expansive soil is identified during design-level geotechnical investigations, appropriate measures shall be implemented in the design plan prepared by the Project Engineer prior to County approval of the final PS&E. These measures will include:

- Remove and replace any excessively expansive material identified;
- Water, condition, and control compaction of fill; and
- Establish positive drainage to suitable points in a controlled manner without ponding.

J-7, Mitigation of Landslides. Land sliding potential of cut/fill slopes associated with the US 101 interchange can be reduced by implementing the following measures in the design plan prepared by the Project Engineer prior to County approval of the final PS&E:

- Design the freeway structures to withstand the maximum credible earthquake;

- Construct fill and/or cut slopes no steeper than 2:1 (horizontal: vertical);
- Establish vegetation along slopes immediately after construction pursuant to County requirements;
- If required vegetation is not fully established by the beginning of the rainy season, additional erosion control measures shall be installed along slopes prior to the season and any rain events pursuant to County requirements; and
- Plant native drought-resistant vegetation which requires limited irrigation pursuant to County requirements.

J-8, Mitigation of Potential Erosion. To control potential erosion, all slopes and areas disturbed by grading for any proposed project facilities shall be planted with native drought resistant vegetation by the County's designated landscape contractor immediately following each applicable phase of construction.

J-9, **Erosion Control Maintenance.** Periodic maintenance of areas disturbed by construction of project facilities shall be conducted during and after project construction by the Project Contractor in order to control erosion gullying and wind erosion.

6. Residual Impacts

After implementation of Mitigation Measures J-1 through J-9, the project poses no significant, unavoidable impacts resulting from geologic hazards. Potentially significant impacts within the project area could be caused by seismic ground shaking, blowing sand and erosion, liquefaction, landslides, and collapsible or expansive soils. Implementation of the foregoing mitigation measures will reduce these potentially significant impacts to a less than significant level. Impacts resulting from surface fault rupture, lateral spreading, regional uplift and tilting, and differential consolidation/seismic settlement would not be significant.

V.K. DRAINAGE, EROSION, AND SEDIMENTATION

This section summarizes the findings of several studies prepared for this project. These studies include the *Floodplain Evaluation Report*, prepared by LSA Associates Inc. (August 2004); the Willow Road Extension, Nipomo Creek Bridge, Hydrology and Hydraulic Report, prepared by RRM Design Group (June 2004), Preliminary Drainage Report (for PSR), prepared by Rajappan and Meyer (July 2004), and Chapter V.K of the *Willow Road/Highway 101 Interchange Final Environmental Impact Report*, prepared by Douglas Wood & Associates, Inc. (March 1999: pp. V176-V185).

1. Existing Conditions

Topography and Drainages. The project area can be divided into two halves, Nipomo Mesa and Nipomo Valley. The boundary between these halves roughly corresponds to US 101. On Nipomo Mesa, located to the west of US 101, the topography comprises open flat areas, linear valleys, and hilly knolls, formed in an area of sand dunes. Slopes in this area generally vary between two and ten percent, although slopes may range between ten and 20 percent in some local depressions. No areas of standing water exist on the Mesa near the project area. Nipomo Valley, located to the east of US 101, is a generally flat floodplain which slopes gently toward the southwest. Numerous creeks drain from the western foothills of the coastal range and run through Nipomo Valley.

The County *Standard Improvement Specifications and Drawings* (County Standards) defines three types of waterways that vary in size. Major waterways have a drainage area over four square miles. Secondary waterways have a drainage area between one and four square miles. Minor waterways have a drainage area of less than one square mile. Secondary and minor waterways exist within the project area.

These waterways are unevenly distributed. Nipomo Mesa contains only minor waterways. Some areas near Willow Road on Nipomo Mesa have been designated as Zone X (unshaded) on a Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for San Luis Obispo County. This designation means that the areas have been determined to be outside the 500-year flood plain. Within Nipomo Valley, Nipomo Creek runs along the eastern edge of the Mesa, passing through the project area. Nipomo Creek is a secondary waterway. It drains a total of 2,103 acres. The watershed for this creek extends from the eastern foothills across Nipomo Valley to a small adjacent area along Nipomo Mesa. Nipomo Creek is depicted on FEMA FIRMs (060304 0750 E and 060304 0761 C) as a 100-year flood plain. This creek is shallow and broad. During a 100-year flood event, the creek channel would be two to three feet deep, and its width would span from 280 to 560 feet.

Soils. Due to differences in parent material and topography, distinct soils form on Nipomo Mesa and in Nipomo Valley (see Figure V.H-1 and Sections V.H and V.J). Alluvial deposits occur within Nipomo Valley, located adjacent to Nipomo Creek and its tributaries. Dune sand deposits, ranging from 70 to 80 feet in thickness within the project area, underlie Nipomo Mesa.

Oceano Series soils (0 to 9 percent slope and 9 to 30 percent slope) form on the sandy dune deposits of Nipomo Mesa. Oceano Series (0 to 9 percent slope) have a slight to moderate erosion potential during wet years, forming gullies. Oceano Series (9 to 30 percent slope) have a moderate to severe erosion potential during wet years. Under dry conditions, wind erosion may impact these sandy areas. Vegetative cover, however, reduces the risk of erosion.

Cropley Clay (0 to 2 percent slope) and Cropley Clay (2 to 9 percent slope) develop within the alluvial deposits near Nipomo Creek. Cropley Clay (2 to 9 percent slope) occurs closer to Thompson Avenue. Erosion potential among these soils is generally low.

Along the low stream terrace bordering Nipomo Creek on its northern side, Tierra Sandy Loam (2 to 9 percent slope) series soil occurs. This soil forms on hills and dissected terraces in old alluvium weathered from sedimentary rocks. The risk of wind erosion impacting this soil is moderate.

2. Thresholds of Significance

According to the CEQA Guidelines (Appendix G) and the County of San Luis Obispo Initial Study Checklist, a project would have a significant impact if it results in the following effects:

- The project places structures within a 100-year flood hazard area that would impede or redirect flood flows;
- The project exposes people or structures to a significant risk of loss, injury, or death involving flooding;
- The project substantially alters the existing drainage pattern of the area or substantially increases the rate or amount of surface runoff in a manner which would result in flooding on-site or off-site;
- Change in quantity or movement of available surface or ground water;
- The project creates or contributes runoff water which would exceed the capacity of existing or planned stormwater drainage systems;
- The project exposes people or structures to inundation by seiche, tsunami, or mudflow;
- Change the drainage patterns where substantial on or off-site sedimentation/erosion or flooding may occur.

3. Project Impacts

Project Design Features. The proposed project includes a number of design features that will reduce impacts attributable to flooding, sedimentation, and erosion.

Nipomo Creek Bridge and Flooding. The proposed bridge over Nipomo Creek will be designed to span the width of the existing base floodplain. Depending on the bridge design, three to four piers, ranging from 0.6 to 0.9 meters (two to three feet) in diameter, will be placed within the base floodplain. The bridge and piers will be designed so as not to raise the 100-year water surface elevation more than 0.3 meters (one foot).

Infiltration Basins and Runoff. Infiltration basins are proposed as part of the project design. These project design features capture and dispose of the natural runoff caused by precipitation on the new asphalt so as to not affect the natural drainage patterns. Two separate basins along the Willow Road alignment are designed to accommodate the increased runoff. Figure III-1 depicts Infiltration Basins (IB) 1 and 2. Each basin has distinct design characteristics and a unique configuration. The depth of the infiltration basins will be up to two feet. These infiltration basins will not capture all of the natural runoff, and proposed conveyances and storm drains (see

description that follows) will capture additional surface runoff from the proposed project's impervious areas.

Conveyances and Runoff. Runoff from the western side of US 101 will be collected into inlets near the intersections of the proposed interchange ramps and Willow Road and will be routed across the proposed roadway to continue downgrade on its current eastward course.

A storm drain system will also collect runoff derived from various portions of the proposed interchange. Surface runoff from Willow Road and US 101 will be collected into inlets at the edge of the pavement and in the median. Runoff collected from US 101 and Willow Road will eventually be collected into a mainline culvert that runs down the center of Willow Road. Runoff from this culvert will then be discharged into a rock-slope protected area near Nipomo Creek on the eastern side of the project area.

Design Features and Erosion. Project design features, such as infiltration basins and rock slope protection, will address some of the potential impacts of erosion. The aforementioned infiltration basins may also serve as siltation basins to limit the amount of sediments being carried to drainages. To protect against possible erosion problems that result from the increased water flow collected at culverts, conveyances that generate a water velocity greater than 0.8 m/s will be lined with asphalt concrete or aggregate. Rock slope protection and flared end section protection will be used at new drainage outfalls and steep slopes to prevent scour. Within the project area, slopes will be 1:4 or 1:2 (vertical: horizontal) in order to minimize erosion. Erosion control, such as fiber rolls, will be applied to assist in stabilizing the project area.

Flooding. The proposed project will not expose people or structures to a significant risk of loss, injury, or death involving flooding. On Nipomo Mesa, minor ponds may develop within localized low points during rainy periods, but flooding will not occur. Flooding may, however, occur within Nipomo Valley. The bridge over the creek will keep traffic from being impacted by such floods, but this bridge will have no significant effect on this flooding. As the proposed project is a new road and interchange, no other structures or other improvements will be located within the 100-year floodplain. Consequently, people and structures will not be exposed to the effects of potential floods, and the project poses no potentially significant impacts attributable to flooding.

Alteration of Drainages. Construction of the project will increase the amount of impermeable paved surfaces in the area. These surfaces alter drainage patterns, because asphalt sheds water more quickly and in greater quantities than bare soil. The effects of such changes in drainage are usually insignificant in areas with little other development, such as the areas in which the proposed project will be constructed. Drainage flows along the western side of US 101 are also relatively small. Nevertheless, the County dictates in its Standard Specifications Manual that all runoff caused by impervious bituminous asphalt must be routed into infiltration basins to ultimately be absorbed by the soil. As noted previously, the proposed project includes two infiltration basins as design features.

The project will not significantly alter existing drainages or drainage patterns. Design features of this project accommodate the additional runoff generated by the project. Consequently, the project will not create potentially significant impacts due to alteration of drainage patterns and /or quantity of runoff.

Erosion and Sedimentation. Flowing water can erode soil and carry sediments to other areas. Such impacts are particularly likely during the winter, when the frequency and amount of rainfall is much higher. Rainfall can facilitate erosion, particularly on bare, unvegetated soil.

Construction Impacts. The ground disturbance created by the project may foster such erosion. Within Nipomo Valley, winter storms could exacerbate erosion and sedimentation within areas disturbed by construction. Disturbed areas on Nipomo Mesa may be impacted by wind erosion during dry months if left unvegetated.

Long-Term Impacts. Project features that collect and distribute surface runoff may themselves potentially contribute to erosion. Water concentrates at culvert outlets, where it may impact local drainages by increasing the velocity and volume of water flow within them. Similarly, project components that would result in the steepening of existing slopes could potentially create more erosive surfaces.

The project includes many design features for the control of erosion and sedimentation. Mitigation Measures K-1 to K-5 are prescribed to address potential erosion and sedimentation problems which may result from construction of the project during wet and dry seasons. With the implementation of these measures, the proposed project will have less than significant impacts resulting from erosion and sedimentation.

Inundation by Seiche, Tsunami, or Mudflow. A seiche, tsunami, or mudflow is not likely to affect the project area. No large body of water exists in the surrounding inland region that could generate a dangerous seiche. Similarly, the project area lies approximately 8 miles from the coast, so a tsunami would not reach this area. Mudflows are also unlikely to pose a hazard to people or property in the project area, since the narrow mountain valleys that would foster large, fast-moving mud flows during rain storms do not exist near the project area. The project will therefore have no potentially significant impacts resulting from a seiche, tsunami, or mudflow.

4. Cumulative Impacts

The cumulative study area for this project is the watershed into which runoff from the project flows. This watershed is the Nipomo Creek watershed. The proposed project accommodates other, planned development in the area. These projects will disturb the ground surface during construction and lead to the creation of more impermeable ground surfaces. Most projects on the cumulative projects list, discussed in Chapter IV, occur on Nipomo Mesa. Many of these projects will drain to undrained depressions within the Mesa. They will contribute little runoff to the Nipomo Creek watershed. Those projects that lie near Nipomo Creek could, however, increase runoff, erosion, and sedimentation. These impacts can be mitigated on a project-by-project basis.

The proposed project will not alter drainage patterns within this watershed. Increases in surface runoff will be insignificant, contributing only a minor addition to existing runoff levels in the area. This runoff will not impact the capacity of regional drainage facilities. Similarly, sediment carried by runoff will be minor when proper erosion control measures have been implemented. Therefore these impacts will be less than significant.

The proposed project will not significantly contribute to cumulative impacts on drainage patterns, erosion, and sedimentation within the region. Most development accommodated by the proposed project will not impact the Nipomo Creek watershed. Any potential impacts from these projects can be mitigated by implementing measures similar to those prescribed for the proposed project. The proposed project itself will have no significant impacts on this watershed.

5. Mitigation Measures

Some mitigation measures from the previous EIR have been implemented as the previously described project design features, so they are no longer included as additional mitigation measures for the purposes of this Supplemental EIR.

K-1, **Construction During the Dry Season.** Prior to approval by the County, the final PS&E for the project shall specify that construction of any project facilities within or adjacent to Nipomo Creek east of the proposed US 101 interchange will take place during the dry season. As defined by County Land Use Ordinance Section 22.05.036, this season occurs between April 15 and October 15.

K-2, Erosion Control Plan for Rainy Season Construction. Prior to approval of any grading plan or permit by the County, the project engineer shall complete an erosion control plan for any construction proposed to occur during the rainy season. The plan shall provide methods for controlling erosion, including—but not limited to—erosion fencing, hay bales, temporary siltation basins, and erosion control blankets. This plan shall conform to Section 22.05.036 of the County Land Use Ordinance. Replacement vegetation and landscaping should be planted sufficiently in advance of October 15 to allow plant roots time to become established and effectively protect the soil.

K-3, Erosion Control Plan for Dry Season Construction. Prior to approval of any grading plan or permit by the County, the project engineer shall complete an erosion control plan for any construction on Nipomo Mesa proposed to occur during the dry season. This plan shall provide methods for controlling wind erosion, including—but not limited to—using a water truck to apply water to disturbed and unvegetated surfaces. This plan shall conform to Section 22.05.036 of the County Land Use Ordinance.

K-4, Monitoring of Project Area. Following completion of each project construction phase, the County monitor shall evaluate the area following storms to determine whether additional work must be done to stabilize areas subject to surface erosion. The County monitor shall document the post-storm condition of areas susceptible to erosion.

K-5, Design of Equestrian Trails. Prior to approving a final PS&E for construction of the equestrian trails located adjacent to the proposed road extension, the County shall require that the PS&E specify the use of compacted native soils (where appropriate), Class 3 aggregate base materials, or similar long-lasting products to minimize erosion on the trail surfaces.

6. Residual Impacts

The foregoing analyses have identified a number of potentially significant impacts to drainages that could be caused by the project. The project, however, includes a number of design features that

address both potential impacts to drainages and potential impacts arising from erosion and sedimentation caused by construction of the project. Mitigation measures, prescribed in the previous section, also address potential impacts from erosion and sedimentation that may be caused during project construction. These design features and mitigation measures reduce these impacts to a less than significant level.

V.L. WATER QUALITY

This section addresses potential impacts to hydrology and water quality resulting from implementation of the proposed project. The *Water Quality Assessment Report: Willow Road Extension/US 101 Interchange Project* (LSA 2005) was reviewed and incorporated into this analysis. This document is provided in Volume III, Appendix J.

1. Existing Conditions

Surface Water Hydrology. In the project area, slopes west of US 101 are generally 2 to 10 percent with some areas between 10 and 20 percent. This type of topography is characterized by localized depressions, but significant evidence of ponding water does not occur.[1]

Within the project area, surface runoff generally drains towards Nipomo Creek, which discharges to the Santa Maria River about four miles downstream. Nipomo Creek is an ephemeral drainage and secondary waterway[2] and runs from the northwest to southeast within the project area. Two culverts both convey runoff from US 101 to the fields east of US 101. These culverts drain into earthen ditches, which eventually disappear as the topography levels out. Recent grazing activities have heavily impacted the portion of Nipomo Creek within the project area.

The 100-year floodplain of Nipomo Creek in the project area varies between approximately 300 and 600 feet in width.[3] The remainder of the project area is not within the 100-year floodplain.[4]

Groundwater Hydrology. The project site is located in the Santa Maria River Valley Groundwater Basin, at the border of the Lower Nipomo Mesa Hydrologic Sub-Area (HSA) and the Nipomo Valley Subbasin. Groundwater is unconfined in most of the basin except in the coastal areas. The average thickness of the water-bearing materials is 1,000 feet, with a maximum thickness of 2,800 feet.[5] Groundwater flow in the Santa Maria River Valley Groundwater Basin is generally westward toward the Pacific Ocean. However, a large groundwater depression lies below the Nipomo Mesa (west of Pomeroy Road) and local groundwater flows towards this depression.[6] The inferred location of the Wilmar Avenue Fault, parallel to Nipomo Creek in the project area, may restrict groundwater movement.[7]

In the project area, groundwater levels are anticipated to be at an elevation of about 225 feet above mean sea level.[8] With elevation of the project area mapped at 360 feet above mean sea level,[9] groundwater is anticipated to be found at least 135 feet below ground surface.

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1 Westland Engineering Company. 1997. *Engineer's Report for Drainage, Erosion and Sedimentation*. September. (Prepared for the 1999 Final EIR.)
2 As defined in the County of San Luis Obispo *Standard Improvement Specifications and Drawings.*
3 Martin & Kane Consulting Engineers. 1997. *Preliminary Hydraulic Analysis for the Willow Interchange Project.* July 1.
4 *Flood Insurance Rate Map No. 0603040750C*, July 18, 1985.
5 California Department of Water Resources. 2004. *California's Groundwater*, *Bulletin 118 Update*. February 27.
6 Ibid.
7 California Department of Water Resources, Southern District, *Water Resources of the Arroyo Grande-Nipomo Mesa Area*, 2002.
8 Ibid.
9 USGS 7.5 Minute Quadrangle Map, *Nipomo.*

Water Quality. The Central Coast Regional Water Quality Control Board (CCRWQCB) conducts surface water quality testing as part of its Central Coast Ambient Monitoring Program (CCAMP) within its jurisdiction. CCRWQCB conducted testing at two locations along Nipomo Creek: Tefft Street and State Route 166 (about 1.5 and 4 miles downstream of the project site, respectively). Results of this testing for Nipomo Creek are provided in Table V.L-1. Table V.L-1 shows that the geomean (geometric average of both locations over several sampling dates) for total and fecal coliform, nitrate, total dissolved solids, chloride, sodium, and sulfate exceed the applicable criteria.

List of Impaired Waters. The 2002 303(d) impaired waters list for California shows 9.3 miles of Nipomo Creek listed for fecal coliform. This impairment is evident in the sampling data provided in Table V.L-1. Total Maximum Daily Loads (TMDLs) must be prepared by the CCRWQCB for impairments based on priority level. The preparation of a TMDL for this impairment is rated as a low priority.[1]

Regional Water Quality. Surface water impacts in the Santa Maria River Watershed are not well defined; the most evident surface water issue is the reduction in capacity at the Twitchell Reservoir due to sedimentation.[2]

The Santa Maria Valley Groundwater Basin, including the Nipomo Mesa, has a history of high nitrate and total dissolved solids concentrations, particularly in the vicinity of the Cities of Santa Maria and Guadalupe. From 1994 to 2000, the average concentration for total dissolved solids in public supply wells ranged from 139 to 1,200 mg/l with an average of 598 mg/l.[3] The CCRWQB attributes regional groundwater impairments to nonpoint source pollution from agriculture and urban activities.[4] A few wells, mostly in the northern part of the basin (not in the vicinity of the project site) show nitrate concentrations that exceed the Maximum Contaminant Level (MCL) for nitrate.[5] Groundwater quality worsens across the Valley in the direction of flow (westward).[6] Table V.L-2 shows the number of public supply wells that exceeded the MCL for a particular constituent during the sampling years of 1994 to 2000.

1 www.swrcb.ca.gov
2 CCRWQCB *Watershed Management Initiative*, January 2002.
3 California Department of Water Resources. 2004. *California's Groundwater*, *Bulletin 118 Update*, February 27.
4 CCRWQCB *Watershed Management Initiative*, January 2002.
5 California Department of Water Resources. 2004. *California's Groundwater*, *Bulletin 118 Update*, February 27.
6 CCRWQCB *Watershed Management Initiative*, January 2002.

Table V.L-1: CCRWQCB Water Quality Monitoring in Nipomo Creek

Analyte	Max	Min	Mean	Geomean	No. of Samples	Hits	%	Sampling Period	Criteria	Reference
Ammonia as N, Total	1.4	0.008	0.098	0.049	26	0		01-2000 to 03-2001	2.4	California Ocean Plan Daily Maximum
Chloride	184	50	116	113	26	15	58	01-2000 to 03-2001	106	Basin Plan Increasing problems for agriculture
Coliform, Fecal	9,000	10	2394	987	25	20	80	01-2000 to 03-2001	200	Basin Plan REC-1 as (geomean)
Coliform, Total	80,000	790	11,158	6,359	26	24	92	01-2000 to 03-2001	1,000	Basin Plan REC-1 (as geomean)
Dissolved Solids, Total	1,538	506	844	817	26	26	100	01-2000 to 03-2001	750	Basin Plan Increasing problems for agriculture
Nitrate as N	6.3	0.043	3.061	2.769	26	12	46	01-2000 to 03-2001	2.25	CCAMP Screening Level
Nitrite as N	0.066	0.005	0.042	0.036	26	0		01-2000 to 03-2001	0.1	CCAMP Screening Level
Oxygen, Dissolved	15.6	5.3	9.4	9.1	31	4	13	01-2000 to 03-2001	7	Basin Plan COLD
pH	8.33	7.37	7.94	7.937	32	1	03	01-2000 to 03-2001	7	Basin Plan MUN
Sodium	164	60	100	98	26	23	88	01-2000 to 03-2001	69	Basin Plan Increasing problems for agriculture
Sulfate	260	120	181	179	14	14	100	08-2000 to 03-2001	100	CCAMP Screening Level (75th percentile)
Suspended Solids, Total	50	2.5	23.7	19.5	26	5	19	01-2000 to 03-2001	37	CCAMP Screening Level (75th percentile)
Turbidity (NTU)	65.2	0.4	13.6	9.5	28	16	57	01-2000 to 03-2001	10	CCAMP Screening Level –Dry Season

Source: www.ccamp.org.
Definitions
Max: The maximum value measured at the site or water body.
Min: The minimum value measured at the site or water body.
Mean: The mean average at the site or water body.
Geomean: The geometric mean average at the site or water body for samples taken on different dates.
Hits: The number of times the water quality criteria was exceeded at the site or water body.
Criteria: The water quality criteria value used for screening purposes.
Reference: The name of the water quality criteria being used for screening purposes.

Table V.L-2: Water Quality in Public Wells

Constituent	Number of Wells Sampled	Number of wells with a concentration above an MCL
Inorganics-Primary Standards	81	2
Radiological	79	1
Nitrates	81	15
Pesticides	79	0
Volatile and Semi-Volatile Organics	79	1

Source: California Department of Water Resources, *California's Groundwater*, *Bulletin 118 Update*, February 27, 2004.

Pollutants of Concern. Several pollutants are commonly associated with storm water runoff, including sediment, nutrients, organic compounds, trash and debris, oxygen-demanding substances, bacteria and viruses, oil and grease, pesticides, and heavy metals. These pollutants are described in more detail below.

Sediments. Natural sediment loads are important to downstream environments by providing habitat, substrate, and nutrition; however, increased sediment loads can result in several negative effects to downstream environments. Excessive sediment can be detrimental to aquatic life by interfering with photosynthesis, respiration, growth, and reproduction. In addition, pollutants that adhere to sediment, such as nutrients, trace metals, and hydrocarbons, can have other harmful effects on the aquatic environment when they occur in elevated levels.

Nutrients. Nutrients are typically composed of phosphorus and/or nitrogen. Elevated levels in surface waters cause algal blooms and excessive vegetative growth. As nutrients are absorbed, the vegetative growth decomposes; utilizing oxygen in the process and reducing dissolved oxygen levels. Dissolved oxygen is critical for support of aquatic life. The ammonium form of nitrogen (found in wastewater discharges) converts to nitrite and nitrate in the presence of oxygen, which further reduces the dissolved oxygen levels in water.

Organic Compounds. Organic compounds are carbon-based and are found in pesticides, solvents, and hydrocarbons. Elevated levels can indirectly or directly constitute a hazard to life or health. During cleaning activities, these compounds can be washed off into storm drains. Dirt, grease, and grime may adsorb concentrations that are harmful or hazardous to aquatic life.

Trash and Debris. Trash and debris can have a significant effect on the recreational value of a water body and aquatic habitat. It also can interfere with aquatic life respiration and can be harmful or hazardous to aquatic animals that mistakenly ingest floating debris.

Oxygen-Demanding Substances. Oxygen-demanding substances include plant debris (such as leaves and lawn clippings), animal wastes, and other organic matter. Microorganisms utilize dissolved oxygen during consumption of these substances, which reduces a water body's capacity to support aquatic life.

Bacteria and Viruses. Bacterial levels in urban runoff can exceed public health standards for water contact recreation, creating a harmful environment. The source is animal or human fecal

wastes. Bacteria and viruses thrive under certain conditions and can alter the aquatic habitat and create a harmful environment for aquatic life.

Oil and Grease. Primary sources of oil and grease are petroleum hydrocarbon products, motor products from leaking vehicles, fats, and waxes. Elevated oil and grease concentrations can affect the aesthetic value of the water body and can create a harmful environment for aquatic life.

Heavy Metals. Bioavailable forms of trace metals are toxic to aquatic life. The most common metals found in urban runoff are lead, zinc, and copper. Sources of heavy metals in surface waters include emissions and deposits from automobiles, industrial wastewater, and common household chemicals. At high concentrations, metals are toxic to aquatic life. Humans can be impacted from contaminated groundwater resources and from bioaccumulation of metals in fish and shellfish.

2. Thresholds of Significance

Discharges into waters of the United States are subject to the regulatory authority of the U.S. Army Corps of Engineers (Corps) under Section 404 of the federal Clean Water Act (CWA); the State Water Resources Control Board (SWRCB) and the CCRWQCB under Sections 401, 402, and 303(d) of the CWA and the California Porter-Cologne Water Quality Acts, and by the California Department of Fish and Game (CDFG) under Section 1602 of the California Fish and Game Code. According to the County of San Luis Obispo Initial Study Checklist, a project would have a significant impact if it results in the following effects:

- The project violates any water quality standards;
- The project discharges into surface waters or otherwise alters surface water quality;
- The project changes the quality of groundwater;
- The project changes the quantity or movement of available surface or groundwater;
- The project adversely affects community water service provider.

Federal Requirements of the Clean Water Act

Section 404. The Corps regulates discharges or fills into waters of the United States under Section 404 of the CWA via the Nationwide Permit (NWP) or Individual Permit program. There are several categories of NWPs, and these can be utilized for projects that fall under specific categories. A Preconstruction Notification (PCN) to the Corps district engineer is required for most activities that result in the loss of greater than 1/10 acre of waters of the U.S. The Corps reviews the PCN on a case-by-case basis to determine if the adverse effects (on the aquatic environment) of proposed work are minimal. The Corps will also determine if a particular drainage is considered to be waters of the U.S. and if it is subject to regulation under Section 404.

Section 402. Direct discharges of pollutants into waters of the U.S. are not allowed, except in accordance with the National Pollutant Discharge Elimination System (NPDES) program established in Section 402 of the CWA. The major purpose of the NPDES program is to protect human health and the environment. Pursuant to the NPDES program, permits that apply to storm water discharges from municipal storm drain systems, specific industrial activities, and

construction activities (one acre or more) have been issued. NPDES permits establish enforceable effluent limitations on discharges, require monitoring of discharges, designate reporting requirements, and require the permittee to perform best management practices (BMPs). Industrial (point source) storm water permits are required to meet effluent limitations; municipal permits are governed by the maximum extent practicable (MEP) or Best Available Technology (BAT)/Best Control Technology (BCT) application of BMPs.

On July 15, 1999, the SWRCB issued a statewide general NPDES Permit (Order No. 99-06-DWQ) to Caltrans, which regulates storm water discharges from Caltrans properties, facilities, and (maintenance) activities and requires that Caltrans construction program complies with the requirements of the State General Construction Activity Storm Water Permit (Order No. 99-08-DWQ). Caltrans Statewide Storm Water Management Plan (SWMP) describes the methods for complying with the Department's NPDES Permit.

General Construction Activity NPDES Permit. In accordance with NPDES regulations, the State of California requires that any construction activity disturbing one acre or more of soil comply with the State General Construction Activity Storm Water Permit (Water Quality Order 99-08-DWQ). To obtain authorization for proposed storm water discharges pursuant to this permit, the landowner (discharger) is required to submit a Notice of Intent to the SWRCB, prepare a Storm Water Pollution Prevention Plan (SWPPP), and implement BMPs detailed in the SWPPP during construction activities. Dischargers are required to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate storm water pollution. The purpose of the SWPPP is to prevent all construction pollutants from contacting storm water and to keep all products of erosion from moving off site into receiving waters. Certain discharges of nonstorm water, such as irrigation, pipe flushing and testing, and dewatering, are permitted as long as they do not cause or contribute to a violation of any water quality standard; violate any provision of the General Permit; require a nonstorm water permit (such as that issued by RWQCB); or violate provisions of the Basin Plan. A general description of typical construction BMPs is provided in Table V.L-3.

SWRCB Resolution 2001-046 modified the General Construction Permit to require preparation of a sampling plan for sampling runoff and conducting laboratory analysis of the runoff under certain conditions. That is, sampling is required where runoff from a construction site discharges *directly* into impaired waters due to sediment/siltation or turbidity, if there is exposure of a pollutant source to storm water that enters a storm drain or surface water (i.e., BMP failure), or where a previous corrective action has been issued. Although Nipomo Creek is not a waterway that is impaired due to sediment/siltation or turbidity, because construction activities could result in construction site discharge directly into Nipomo Creek, sampling may be required.

The County of San Luis Obispo is subject to the requirements of the *State Water Resources Control Board (SWRCB) Water Quality Order No. 2003-0005-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000004, Waste Discharge Requirements (WDRs) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (General Permit)* (April 30, 2003). The region within the County subject to these requirements must at least include all urbanized areas. The General Permit requires permittees to develop and implement a Storm Water Management Program (SWMP) that describes BMPs, measurable goals, and timetables for implementation in the following six program areas:

Table V.L-3: Typical Construction BMPs

Construction BMPs for incorporation, where applicable, into the SWPPP	Sediment	Nutrients	Pathogens	Pesticides	Metals	Other
Soil and slope stabilization utilizing the appropriate combination of natural and synthetic mattings, geotextiles, mulches, and temporary and permanent seeding.	X	X			X	
Temporary desilting basins constructed where necessary and consisting of ponds with outflow pipes designed to retain or detain runoff sufficiently to allow sediment to settle.	X	X			X	
Storm drain inlet protection utilizing an appropriate combination of barrier devices such as sandbags, straw rolls, hay bales, fiber rolls, gravel, silt fencing, screens, and temporary drain signs (raising awareness and limiting construction wastes from entering the storm drain system).	X	X			X	Trash
Energy dissipation devices installed where necessary and consisting of physical devices such as rock, riprap, and concrete rubble intended to prevent scour of downstream areas.	X	X			X	
On-site dust control and street sweeping employed when and where necessary, paying close attention to paved areas and areas susceptible to wind erosion (such as soil stockpiles).	X	X			X	Trash
Stabilized construction entrance consisting of pads of aggregate and located where traffic enters public rights-of-way; when and where necessary, wash racks or tire rinsing may be employed (tire rinse waters being directed through on-site sediment control devices).	X				X	
Diversion Structures consisting of devices such as silt fencing, temporary or permanent channels, V ditches, earthen dikes, downdrains, straw bales, and sandbag check dams should be utilized where necessary to divert storm water flows from disturbed areas.	X				X	Trash
Adherence to Groundwater Extraction Permit conducting required testing, monitoring, and discharge provisions for activities, including dewatering and foundation dewatering.	X				X	
Construction housekeeping practices consisting of practices such as barricading catch basins and manholes during paving activities; utilizing plastic sheeting, secondary containment, or bermed areas for construction materials when necessary; removing construction debris in a timely fashion; designating and lining concrete wash out areas; and berming or locating sanitary facilities away from paved areas.	X		X		X	Trash
Fertilizer, pesticide, and soil amendment management, including not over-applying such materials.		X		X		

Source: California Stormwater BMP Handbooks (2003).

- Public Education;
- Public Participation;
- Illicit Discharge Detection and Elimination;
- Construction Site Storm Water Runoff Control;
- Post-construction Storm Water Management; and
- Pollution Prevention/Good Housekeeping for Municipal Operations.

In particular, the County must develop and implement strategies, which include a combination of appropriate structural and/or nonstructural BMPs to be incorporated into new development and redevelopment projects. Source Control BMPs are pollution prevention practices that are designed to reduce pollutants in runoff from a project site (e.g., street sweeping, drainage system maintenance). Treatment BMPs are structural devices that physically remove pollutants in runoff (e.g., infiltration basins, vegetated swales).

Section 401. Section 401 of the CWA specifies that any applicant for a federal license or permit to conduct any activity, including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters, shall provide the federal licensing or permitting agency a certification from the State in which the discharge originates or will originate from the State agency with jurisdiction over those waters (CCRWQCB) that the project will comply with water quality standards, including beneficial uses, water quality objectives, and the State antidegradation policy.

Section 303. Section 303(d) of the CWA requires that the State adopt water quality objectives for surface waters. The Basin Plan contains water quality objectives that are considered necessary to protect the specific beneficial uses it identifies. Section 303(d) specifically requires the State to develop a list of impaired water bodies and subsequent numeric Total Maximum Daily Load (TMDLs)[1] or whichever constituents impair a particular water body. These constituents include inorganic and organic chemical compounds, metals, sediment, and biological agents.

State Requirements. The CDFG, through provisions of the California Fish and Game Code (Section 1602), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams and rivers are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. The CDFG typically extends the limits of their jurisdiction laterally beyond the channel banks for streams that support riparian vegetation. In these situations, the outer edge of the riparian vegetation is generally used as the lateral extent of the stream and CDFG jurisdiction.

[1] The TMDL is the total amount of a constituent that can be discharged while meeting water quality objectives and protecting beneficial uses. It is the sum of the individual load allocations for point source inputs (e.g., an industrial plant), load allocations for nonpoint source inputs (e.g., runoff from urban areas), and natural background, with a margin of safety.

CDFG regulates wetland areas only to the extent that those wetlands are a part of a river, stream, or lake as defined by CDFG. While seasonal ponds are within the CDFG definition of wetlands, they are not part of a river, stream, or lake and may, or may not, be subject to the jurisdiction of CDFG under Section 1602 of the Fish and Game Code.

Regional and Local Requirements. As part of standard County of San Luis Obispo practices, an Erosion Control and Sedimentation Plan for each development and roadway project is prepared that identifies the proposed methods for controlling runoff, erosion, and sediment movement for review and approval by the appropriate director for projects within its jurisdiction (Section 22.05.020 of the County Land Use Ordinance). In addition, Section 22.52.100 of the County Land Use Ordinance requires groundwater recharge elements to be included in the project design except under specific conditions: existing high groundwater, no impervious area is created with the development, recharge would create geologic instability, no additional runoff will occur with development, or federal or State regulations prohibit recharge.

Water Quality Objectives. As required by the Porter-Cologne Act, the CCRWQCB has developed water quality objectives for waters within its jurisdiction to protect the beneficial uses of those waters and has published them in the Basin Plan. The Basin Plan also establishes implementation programs to achieve these water quality objectives and requires monitoring to evaluate the effectiveness of these programs. Water quality objectives must comply with the State antidegradation policy (State Board Resolution No. 68-16), which is designed to maintain high-quality waters while allowing some flexibility if beneficial uses are not unreasonably affected.

Surface Water Quality Objectives. There are no specific water quality objectives listed for Nipomo Creek in the Basin Plan. Surface water quality objectives for all inland waters are listed in Table V.L-4. Maximum concentrations applicable to Nipomo Creek are listed in Table V.L-5.

Groundwater Quality Objectives. General groundwater quality objectives for the Central Basin and specific objectives for Lower Nipomo Mesa are provided in Table V.L-6 below.

3. Project Impacts

Potential Construction Impacts to Water Quality. Pollutants of concern during construction include sediments, trash, petroleum products, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality and aquatic habitats. Both the proposed road construction and the proposed bridge construction over Nipomo Creek have the potential to introduce pollutants into Nipomo Creek. Because the bridge will be constructed within and above the river, there is a greater potential for pollutants (e.g. sediments, organic compounds, or pathogens) to enter the creek from bridge construction than from road construction. Bridge construction may therefore necessitate innovative BMPs, more frequent inspections, and more deliberate work processes, etc., with respect to water quality protection. However, because road construction could also cause sediments and other pollutants to enter Nipomo Creek, BMPs shall focus on protecting water quality during road construction in addition to protecting water quality during bridge construction. Under the applicable NPDES permits, the County and Caltrans are required to implement BMPs using BAT/BCT. If Construction BMPs are properly designed, implemented, and maintained as prescribed in Mitigation Measures L-1 and L-2, significant adverse water quality impacts would be reduced to less than significant.

Table V.L-4: Surface Water Quality Objectives for Inland Waters

Constituent	Concentration
Color	Shall not cause nuisance or adversely affect beneficial uses.
Tastes and Odors	Shall not cause nuisance or adversely affect beneficial uses or cause undesirable tastes or odors to edible organisms.
Floating Material	Shall not cause nuisance or adversely affect beneficial uses.
Suspended Material	Shall not cause nuisance or adversely affect beneficial uses.
Settleable Material	Shall not cause nuisance or adversely affect beneficial uses.
Oil and Grease	Shall not cause nuisance or adversely affect beneficial uses or visible film on water surface.
Biostimulatory Substances	Shall not cause nuisance or adversely affect beneficial uses.
Sediment	Shall not cause nuisance or adversely affect beneficial uses.
Turbidity	Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 JTU. Where natural turbidity is greater than 100 JTU, increases shall not exceed 10 percent.
Dissolved Oxygen	Shall not be less than 5.0 mg/l (milligrams per liter).
Toxicity	Shall be free of toxic substances in concentrations that are toxic to or that produce detrimental physiological responses in life forms.
Pesticides	Shall not reach concentrations that adversely affect beneficial uses. Shall not increase concentrations in bottom sediments or aquatic life.
Bacteria (fecal coliform)	Five samples for any 30-day period shall not exceed a log mean of 2000/100 ml, nor shall ten percent of samples during any 30-day period shall not exceed 4000/ml.
pH	Shall not be depressed below 6.5 nor raised above 8.3.
Radioactivity	Shall not be present in concentrations that are deleterious to life forms.
	Not to be exceeded levels
Methylene Blue Activated Substances	0.2 mg/l
Phenols	0.1 mg/l
PCBs	0.3 µg/l (micrograms per liter)
Phthalate Esters	0.002 µg/l

Source: *Water Quality Control Plan, Central Coast Region.*

Table V.L-5: Maximum Concentrations Applicable to Nipomo Creek

Constituent	Applicable Beneficial Use	Concentration
pH	All	Shall not be depressed below 7.0 or raised above 8.3.
Radioactivity	MUN[1]	Not in excess of limits in 22 CCR 15 §64441 and 64443, Table 4
Endrin	MUN	0.0002 mg/l
Lindane	MUN	0.004 mg/l
Methoxyclor	MUN	0.1 mg/l
Toxaphene	MUN	0.005 mg/l
2,4-D Chlrophenoxys	MUN	0.1 mg/l
2,4,5-TP Silvex	MUN	0.01 mg/l
Atrazine	MUN	0.003 mg/l
Bentazon	MUN	0.018 mg/l
Benzene	MUN	0.001 mg/l
Carbon Tetrachloride	MUN	0.0005 mg/l
Carbofuran	MUN	0.018 mg/l
Chlordane	MUN	0.0001 mg/l
1,2-Dibromo-3-chloropropane	MUN	0.0002 mg/l
1,4-Dichlorobenzene	MUN	0.005 mg/l
1,1-Dichloroethane	MUN	0.005 mg/l
1,2-Dichloroethane	MUN	0.0005 mg/l
cis-1,2-Dichloethylene	MUN	0.006 mg/l
trans-1,2-Dichloroethylene	MUN	0.01 mg/l
1,1-Dichloroethylene	MUN	0.006 mg/l
1,2-Dichloropropane	MUN	0.005 mg/l
1,3-Dichloropropene	MUN	0.0005 mg/l
Di(2-ethylhexyl) phthalate	MUN	0.004 mg/l
Ethylbenzene	MUN	0.680 mg/l
Ethylene Dibromide	MUN	0.00002 mg/l
Glyphosate	MUN	0.7 mg/l
Heptachlor	MUN	0.00001 mg/l
Heptachlor epoxide	MUN	0.00001 mg/l
Molinate	MUN	0.02 mg/l
Monochlorobenzene	MUN	0.030 mg/l
Simazine	MUN	0.010 mg/l
1,1,2,2-Tetrachloroethane	MUN	0.001 mg/l
Tetrachloroethylene	MUN	0.005 mg/l
Thiobencarb	MUN	0.07 mg/l
1,1,1-Trichloroethane	MUN	0.200 mg/l
1,1,2-Trichloroethane	MUN	0.032 mg/l
Trichloroethylene	MUN	0.005 mg/l
Trichlorofluoromethane	MUN	0.15 mg/l
1,1,2-Trichloro-1,2,2-Trifluoroethane	MUN	1.2 mg/l
Vinyl Chloride	MUN	0.0005 mg/l
Xylenes	MUN	1.750 mg/l
Aluminum	MUN	1 mg/l
Arsenic	MUN	0.05 mg/l
Selenium	MUN	0.01 mg/l
Silver	MUN	0.05 mg/l
Barium	MUN	1 mg/l
Cadmium	MUN	0.010 mg/l
Chromium	MUN	0.05 mg/l
Copper	AGR	0.2 mg/l
Lead	MUN	0.05 mg/l
Mercury	MUN	0.002 mg/l
Nickel	AGR	0.2 mg/l
Vanadium	AGR	0.1 mg/l
Zinc	AGR	2.0 mg/l

Source: *Water Quality Control Plan, Central Coast Region (September 8, 1994).*

[1] MUN = Municipal and domestic supply
AGR = Agricultural supply

Table V.L-6: Groundwater Quality Objectives for the Lower Nipomo Mesa

Constituent	Concentration
Tastes and Odors	Shall not contain taste or odor producing substances in concentrations that adversely affect beneficial uses.
Radioactivity	Shall not be in excess of limits specified in 22 CCR, Chap. 15, Section 64443, Table 4.
	Median groundwater objectives, mg/l
Total Dissolved Solids	710
Chlorine	95
Sulfate	250
Boron	0.15
Sodium	90
Nitrates as Nitrogen	5.7

Source: *Water Quality Control Plan, Central Coast Region.*

Potential Postconstruction/Operational Impacts to Water Quality. Pollutants of concern during operation of a transportation facility include sediments, trash, petroleum products, metals, and chemicals.[1] An increase in impervious area will increase the volume of runoff during a storm, which will more effectively transport pollutants to receiving waters and may lead to downstream erosion. In addition, an increase in impervious surface will alter the character of the runoff (from agricultural runoff to road/vehicular runoff) thereby increasing the amount of pollutants and impacting surface water and groundwater quality. Overall, the increase in impervious area has the potential to significantly impact water quality. Source Control BMPs and Treatment BMPs are required for the project.

In order to be consistent with Caltrans guidelines, the County will install and maintain vegetated strips/swales. The proposed infiltration basins will be designed to capture the calculated Water Quality Volume (WQV) that must be treated as determined by County and Caltrans requirements and infiltrate it directly into the soil instead of discharging to receiving waters. Therefore, some pollutants in runoff from the proposed project would be trapped in vegetated strips/swales and the remainder would be captured in the infiltration basins and filtered through the soil. (Refer to Tables V.L-8 and V.L-9. under Section 5, Mitigation Measures.) The County and Caltrans shall monitor and maintain the Treatment BMPs within their respective rights-of-way. Adherence to County and Caltrans requirements as presented in Mitigation Measure L-3 will reduce potential adverse impacts to water quality after construction to less than significant.

4. Cumulative Impacts

Construction of transportation facilities and other development projects have the potential to impact water quality due to the increase in impervious area, erosion during construction, and introduction of additional pollutants. As a result, Caltrans and municipalities have been issued NPDES permits with requirements that are designed to protect receiving waters in the State. Each new project involving an acre or more of disturbance, must comply with these requirements as applicable in order to prevent further degradation of water quality in the water body that receives the project's runoff. At the same

[1] Caltrans *Storm Water Quality Handbooks, Project Planning and Design Guide,* September 2002.

time, the State's antidegradation policy allows for flexibility in determining whether additional discharges of pollutants in runoff will affect the beneficial uses of a receiving water. In order to control and offset potential impacts, the proposed project, along with other projects in the area, is required to comply with applicable ordinances and regional and State water quality programs, enforced through review of storm water management plans and SWPPPs. Through compliance with these programs and in combination with the BMPs that will be implemented as part of the project, project and cumulative impacts on water quality would be addressed and effectively controlled.

The Nipomo Mesa HSA, which is the cumulative impact study area for purposes of this analysis, consists of relatively low-density land uses such as residences and shops within the community of Nipomo, open space, agricultural and rural residential properties on the mesa and in the foothills, and urban uses near the coast. Suburban residential development is increasing on the Nipomo Mesa.[1] Development projects that increase storm water flows and impervious area, thereby increasing storm water pollutant loads, are required to be reviewed carefully for water quality compliance.

Although most of the Nipomo mesa drainage is handled by undrained depressions which result in little or no surface water flow, creation of impervious areas due to development increases storm flows by providing a smooth surface for runoff and by preventing infiltration into the soil. Pollutant build-up on impervious area is more easily transported into storm drains and receiving waters. In addition, impervious area due to development is often associated with new pollutant sources (vehicles, household chemicals, pet waste, etc.) and/or increased pollutant concentrations (higher density developments). Increases in impervious area have the potential to impair surface water quality and groundwater quality (especially high groundwater). In addition, impervious area prevents precipitation from percolating through the soil. This can be detrimental in groundwater recharge areas because it prevents recharge of aquifers used for water supply.

The proposed project will not adversely impact water quality with implementation of a series of BMPs in accordance with NPDES requirements for pollutants of concern. That is, the increase in pollutant loading resulting from the proposed interchange and roadway extension would be offset by the Construction BMPs and Treatment BMPs proposed as part of the project. Likewise, other projects in the Nipomo Mesa HSA are required to be reviewed by local, regional, and State jurisdictions and would be evaluated against requirements similar to those for the proposed project. Should similar procedures be followed for future projects within the watershed area, such as the County requirement for groundwater recharge subject to certain conditions, appropriate Construction BMPs, and Treatment BMPs, the cumulative projects would not substantially impact surface water or groundwater quality. Therefore, the proposed project will not, either by itself or in combination with other reasonably foreseeable projects, cause significant cumulative impacts to water quality.

5. Mitigation Measures

Standard Procedures and Practices. In order to prevent degradation of water quality with construction of roadway improvements within a relatively undeveloped area, the County and Caltrans will implement standard procedures and BMPs. These procedures and BMPs will be consistent with the County municipal code as well as the County SWMP and the Model Urban Runoff Program for

[1] San Luis Obispo Council of Governments. 2001. *Regional Transportation Plan*.

small municipalities (developed by various local jurisdictions and the CCRWQCB[1]). Procedures and BMPs will also be consistent with the Caltrans SWMP as applicable. The SWRCB lists the California Stormwater BMP Handbooks as providing guidance on selecting BMPs for reducing pollutants in stormwater discharges.[2] Routine Nonstructural and Structural Source Control BMPs applicable to the project are provided in Table V.L-7. Pollutants of concern and applicable Caltrans-approved Treatment BMPs are provided in Table V.L-8.

Structural Treatment BMPs that will be incorporated as part of the project include two infiltration basins and vegetated swales or vegetated buffer strips. The vegetated swales/buffer strips would be located along the roadway perimeter.

The California Stormwater BMP Handbooks have published removal efficiencies for Treatment BMPs as high, medium, or low. These removal efficiencies for the proposed Treatment BMPs are listed in Table V.L-9.

Table V.L-7: Routine Nonstructural and Structural Source Control BMPs

Identifier	Name	Type	
		Nonstructural	Structural
SC-10	Non-Storm Water Discharges[3]	√	
SC-11	Spill Prevention, Control, and Cleanup	√	
SC-34	Waste Handling and Disposal	√	
SC-35	Safer Alternative Products	√	
SC-60	Housekeeping Practices	√	
SC-70	Road and Street Maintenance	√	
SC-73	Landscape Maintenance	√	
SC-74	Drainage System Maintenance	√	
Provide storm drain system stenciling and signage			√
Use efficient irrigation systems and landscape design, water conservation, smart controllers, and source control			√
Protect slopes and channels and provide energy dissipation			√

Source: California Stormwater BMP Handbooks (2003).
SC = Source Control

1 City of Monterey et al. 2002. *Model Urban Runoff Program, A How-To Guide for Developing Urban Runoff Programs for Small Municipalities*. February.

2 www.swrcb.org

3 Fact sheets for these BMPs are provided in Appendix B and in the California Stormwater Quality Association Storm Water Best Management Practice Handbooks: New Development and Redevelopment, Construction, Industrial and Commercial, and Municipal.

Table V.L-8: Pollutants of Concern and Applicable Treatment BMPs

	Biofiltration Systems	Infiltration Basin	Detention Devices	Dry Weather Flow Diversions	Gross Solids Removal Devices	Traction Sand Traps
Total Suspended Solids	√	√	√	√		√
Nutrients		√		√		
Pesticides		√		√		
Particulate Metals	√	√	√	√		
Dissolved Metals		√		√		
Pathogens		√		√		
Litter	√	√	√	√	√	
Biochemical Oxygen Demand		√		√		
Total Dissolved Solids		√		√		

Source: *Storm Water Quality Handbooks, Project Planning and Design Guide*, September 2002.

Table V.L-9: Treatment BMPs and Removal Efficiency

Pollutant of Concern	Treatment BMP Categories		
	Vegetated Buffer Strip	Vegetated Swale	Infiltration Basin
Sediment (roads and highways)	H	M	H
Nutrients (landscaping)	L	L	H
Organic Compounds (roads and highways)	M	M	H
Trash (roads and highways)	M	L	H
Bacteria (impairment of Nipomo Creek)	L	L	H
Oil & Grease (roads and highways)	H	M	H
Metals (roads and highways)	H	M	H

Source: California Stormwater BMP Handbooks (2003).

L: Low removal efficiency
M: Medium removal efficiency
H: High removal efficiency

Treatment BMPs will be incorporated into the final design of Willow Road extension and interchange at US 101. The project design includes construction of two infiltration basins for treatment of the WQV. To help trap some pollutants in runoff, such as sediments, metals, oil and grease, the project design also includes the installation of vegetated strips/swales. These strips/swales, running the entire length of Willow Road, will be vegetated with native grasses. The infiltration basins and vegetated

strips and swales are considered BMPs and shall be implemented so as to meet or exceed the requirements of the County and Caltrans NPDES permits. Therefore, compliance with the standard requirements for potential construction and postconstruction impacts (listed below in Mitigation Measures L-1, L-2, and L-3) will result in less than significant impacts to water quality with implementation of the project.

L-1, NPDES Permit (County Compliance). Prior to the issuance of grading permits, the County shall ensure that the project complies with the State General Construction Activity NPDES Permit. The construction contractor shall demonstrate to the County that coverage has been obtained under the State General Construction Activity NPDES Permit by providing a copy of the Notice of Intent (NOI) submitted to the State Water Resources Control Board (SWRCB) and a copy of the subsequent notification of the issuance of a Waste Discharge Identification (WDID) number or other proof of filing. In accordance with the permit, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for the project. Implementation of the SWPPP shall reduce the discharge of pollutants to the maximum extent practical using management practices, control techniques and systems, design and engineering methods, and such other provisions as are appropriate. A copy of the SWPPP shall be kept at the project site and shall be available to the County upon request.

L-2, NPDES Permit (Caltrans Compliance). Prior to the issuance of grading permits, Caltrans shall comply with the provisions of the *National Pollutant Discharge Elimination System (NPDES) Permit Statewide Storm Water Permit and Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation* Order No. 99-06-DWQ NPDES No. CAS000003, as they relate to construction activities for the portion of the project within their jurisdiction. This shall include a *Notification of Construction* to the Central Coast Regional Water Quality Control Board at least 30 days prior to the start of construction, preparation and implementation of a Storm Water Pollution Prevention Plan, and a *Notice of Completion* to the CCRWQCB upon completion of construction and stabilization of the site.

L-3, Best Management Practices. Prior to construction, the County and Caltrans shall follow the procedures outlined in the *Storm Water Quality Handbooks, Project Planning and Design Guide* and other applicable County guidelines for implementing treatment best management practices (BMPs) for the project. This shall include coordination with the Central Coast Regional Water Quality Control Board (CCRWQCB) with respect to feasibility, maintenance, and monitoring of Treatment BMPs as set forth in the County's Storm Water Management Program and Caltrans *Statewide Storm Water Management Plan*.

6. Residual Impacts

Implementation of Construction and Treatment BMPs, along with Mitigation Measures L-1, L-2, and L-3 will prevent adverse impacts to water quality. Therefore, the project will not cause any residual construction, postconstruction, or cumulative water quality impacts.

V. M. HAZARDOUS MATERIALS

The following discussion of hazardous materials is based on a database research provided by Environmental Data Resources, Inc. (EDR), November 2004, and a visual inspection of the area. The results of the EDR database search are available in their entirety at the County of San Luis Obispo, Department of Planning and Building (Topographic Map Report 2004; Radius Map 2004; Aerial Photography Print Service 2004). This section also references relevant information from the Hazardous Materials section (VL) in the Willow Road/Highway 101 Interchange FEIR (1999).

1. Existing Conditions

There are a variety of land uses within the proposed project area, some of which have the potential to generate or use hazardous materials. West of Pomeroy Road and north of the existing Willow Road is the Black Lake Golf Course. On either side of Willow Road between Pomeroy and Hetrick Avenue, the predominating land use is rural residential. This designation includes scattered ranch structures, residences, corrals, and barns. Pismo Flowers, Inc. (formerly Brand Flowers, Inc.) is located just south of the proposed Willow Road alignment between Pomeroy and Hetrick Avenue. It is possible that pesticides have been used for past and current cultivation within this area. Agricultural land predominates east of Hetrick Avenue and north of the existing Willow Road. Evidence of an underground natural gas pipeline, owned by Pacific Gas & Electric, was noted along the western boundary of US 101. Minor evidence of surface hazardous materials were noted on private property at the same location of the proposed park-and-ride lot, west of US 101 and south of Willow Road. The potentially hazardous surface materials include:

- Six small metal tanks. The contents of the tanks were undetermined and no surface stains were noted.
- Five small oil tanks. The contents of the tanks were undetermined and no surface stains were noted.

East of US 101 is in predominantly agricultural use consisting of scattered grazing areas and croplands.

C&M Nursery is located east of US 101, in the southeast quadrant of the proposed interchange. C&M Nursery has been operating since the early 1970's and is located on approximately 30 acres. It is mostly devoted to the cultivation of avocado and citrus trees, with soil stockpiles in the northern portion, small greenhouse structures in the central portion, and potted trees in the southern portion. Various pesticides and fungicides have been used within this property to fumigate imported soils and reduce the potential for root rot. Pesticides are applied to the trees from a truck-mounted spray unit. According to a nursery supervisor, the use of pesticides in the area is monitored by the County of San Luis Obispo, Department of Agriculture/Measurement Standards; however, trace amounts of pesticides may be present on surface soils due to nursery operations.

Two Unocal pipelines are located east of US 101 and west of Thompson Avenue. These pipes are the 8-inch Orcutt and 12-inch Santa Maria pipelines. They are buried approximately 12 feet beneath the ground surface.

Other possible areas of environmental concern were noted in the 1999 FEIR and include the LR Braggs Company and Gibbs International Trucks. LR Braggs Company is an active waste oil operator located at 483 North Frontage Road, Nipomo and Gibbs International Trucks has an active hazardous materials operating permit and is located at 215 8th Street in Nipomo.

The database research conducted for this analysis (EDR, November 2004) indicated no hazardous materials have been recorded on or adjacent to the project site.

2. Thresholds of Significance

According to Appendix G of the State CEQA Guidelines and the County of San Luis Obispo Initial Study Checklist, a significant impact is represented by the creation or increase of public health hazards. This may include the disposal, creation, or use of materials that would jeopardize human, plant, and/or animal populations within the affected area.

The proposed project would have a significant effect on the environment from hazards or hazardous materials if it would:

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

3. Project Impacts

Roadways. Elevated levels of soil contaminants, such as lead, may be present along the shoulders of US 101 due to airborne deposition from automobiles. If elevated levels of lead are confirmed within the soils adjacent to US 101 (See Mitigation Measure M-1), this will not pose a significant potential impact to human or environmental health. However, if these soils are disturbed during grading activities, ingestion or inhalation of airborne dust may pose a potential threat to human health.

Asphalt roadways containing petroleum compounds and oil drippings may be a source of adjacent soils contamination. According to a soils/toxics engineer, these compounds are within the roadway

base and are not mobile. Oil drippings and petroleum compounds do not generally seep through the roadway and, therefore, are not considered to cause significant impacts from a local or regional perspective (FEIR 1999).

Underground Utilities. Pacific Gas & Electric owns and operates an underground natural gas pipeline adjacent to and west of US 101. Prior to grading and construction activities, the location of the pipeline must be accounted for and appropriately recognized. (see Mitigation Measure M-2).

The Unocal pipelines, designated the Orcutt and Santa Maria oil pipelines, transverse the agricultural land between Thompson Avenue and US 101. If the pipelines are disturbed by grading activities or if any leaks are currently present, hydrocarbon contamination of the subsurface soils may occur which would be a significant impact. Prior to grading and construction activities, the location of the pipeline must be accounted for and appropriately recognized (See Mitigation Measures M-3 and M-4).

Asbestos Containing Materials. As the project is located in San Luis Obispo County, and this area is among the counties listed as containing serpentine and ultramafic rock, asbestos or ultramafic rock may be encountered during construction activities. However, a general location guide[1] shows no areas of naturally occurring asbestos (NOA) in the project vicinity. In the unforeseen event of the discovery of ultramafic or asbestos containing materials, the County shall comply with all requirements outlined in the Asbestos ATCM for Construction, Grading, Quarrying and Surface Mining Operations and, therefore, NOA impact during project construction would be minimal to none. (See Standard Condition D-2, Asbestos Dust Mitigation Program). Section V.D, Air Quality, further addresses the potential for ultramafic rock and /or asbestos containing materials.

Nurseries. The eastern portion of the proposed project is directly adjacent to the northern portion of C&M Nursery. Activities within this area of impact on nursery property include temporary soil and equipment storage. No hazardous materials were identified and no potential impacts are anticipated.

Pismo Flowers Inc. is the only off-site operation that could potentially cause environmental concern due to prior or current use of pesticides. However, the nursery is approximately 800 feet south of the proposed Willow Road extension right of way and therefore would not cause significant impacts related to exposure of hazardous substances.

Oil and Propane Tanks. Although oil and propane tanks were identified on private property west of US 101 and south of the proposed Willow Road alignment, no hazardous materials were identified or determined within the tanks and, therefore, no potential impacts are anticipated.

The proposed project would not create a significant hazard to the public or the environment through foreseeable upset and accident conditions involving the release of hazardous materials. The proposed project would create an additional roadway and highway interchange, and hazardous materials could potentially be transported on the roadway. However, the Willow Road extension would be a two lane arterial classification, and the majority of the hazardous material transport is on regional routes including US 101.

[1] A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos, Department of Conservation, Division of Mines and Geology, State of California, August, 2000. (ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/ofr_2000-019.pdf)

Use of the proposed roadway and interchange would not emit hazardous emissions or involve hazardous materials handling. The proposed project impact area is not located on the list of hazardous materials sites compiled per Government Code Section 65962.5.

The proposed project will improve emergency access/circulation and will not, therefore, interfere with any emergency response or evacuation plans. Vehicular use of the proposed roadway extension and interchange would increase the potential fire hazard along the roadway perimeter; however, this change would not constitute significant wildland fire danger, or a significant risk of loss, injury, or death involving wildland fire generation.

4. Cumulative Impacts

The cumulative study area for potential hazardous materials impacts is the area containing the cumulative projects shown on Figure IV-1. Although there are potential significant impacts associated with the disturbance of the Pacific Gas & Electric and Unocal pipelines, implementation of the mitigation measures described below will ensure that the proposed Willow Road Extension/US 101 Interchange project will not add significantly to cumulative impacts due to hazardous materials. Potential cumulative impacts from hazardous materials from the other development projects in the study area would require mitigation on a project by project basis.

5. Mitigation Measures

M-1, Soil Contamination. To confirm whether lead contaminants are present in surface soils adjacent to US 101, soil sampling and testing shall be conducted by a County-approved soil scientist prior to any grading or construction activities. Should elevated levels of lead or petroleum contaminants be found, a Health and Safety Plan shall be prepared by a qualified individual approved by the County. Work practices and worker health and safety must conform to California Code of Regulations, Title 8, Section 1532.1 (Construction Safety Orders). The compliance program required under this section, which would include the health and safety plan, must be prepared by an industrial hygienist certified by the American Board of Industrial Hygiene. A qualified person who is capable of taking corrective action must monitor the compliance program/Health and Safety Plan.

M-2, Pacific Gas & Electric Pipeline. The existing PG&E pipeline along the western side of US 101 will require special consideration during project grading activities associated with proposed Willow Road and interchange alignment. Optional design considerations include:

- Avoidance of the existing pipeline;
- Stabilization of the existing pipeline through strengthening materials;
- Relocation of the existing pipeline outside of the axis of grading.

Project design and construction plans shall include specifications for the appropriate method to avoid or remedy any impact to the pipeline. If avoidance is not feasible, the County shall consult PG&E for appropriate means to ensure that the pipeline is stabilized and strengthened. If it is determined that the pipeline must be relocated, the County of San Luis Obispo will analyze for the potential environmental impacts (e.g. archaeological, biological, etc.) caused by relocating the line. A

Relocation analysis will be conducted prior to construction activities and the County will either redesign construction plans or provide adequate mitigation measures to reduce potential impacts to less than significant levels. The mitigation measures will meet the performance criteria established by PG&E and the State Fire Marshall for pipeline stability, security and proper function to prevent leakage or other hazardous effects.

M-3, Unocal Pipelines. The two existing Unocal pipelines along the eastern alignment of US 101, east of Nipomo Creek and west of Thompson Avenue will require special consideration during project grading activities associated with proposed Willow Road and interchange alignment. Considerations include:

- Avoidance of the existing pipelines;
- Stabilization of the existing pipelines through strengthening materials;
- Relocation of the existing pipelines outside of the axis of grading.

If the pipelines cannot be avoided, and stabilization of the lines is feasible, Unocal shall be consulted on appropriate means to stabilize the pipelines. If it is determined that one or both of the lines must be relocated, the County of San Luis Obispo will analyze for potential environmental impacts of relocating the line. A relocation analysis will be conducted prior to construction activities and the County will either redesign construction plans or provide adequate mitigation measures to reduce potential impacts to less than significant levels. The mitigation measures will meet the performance criteria established by Unocal and the State Fire Marshall for pipeline stability, security and proper function to prevent leakage or other hazardous effects.

M-4, Unocal Pipeline Monitoring. Due to the potential impacts of a leaky or broken oil pipeline, the Unocal pipeline and surrounding areas shall be monitored by a County-designated monitor for the presence or absence of leaks and contaminants prior to project construction in the affected areas. If leaks or contaminants are detected, proper corrective actions shall be taken to comply with all regulatory codes. At a minimum, the contractor shall notify the County engineer and Unocal to turn off the line, as necessary; the affected soil shall be removed and monitoring shall be conducted in accordance with the County Environmental Health Department.

6. Residual Impacts

All possible hazardous materials are confined to specific areas that are unlikely to be disturbed by the proposed project. Implementation of mitigation measures described above will further ensure these potentially hazardous materials are not disturbed. Therefore, no significant unavoidable adverse impacts associated with hazardous materials are anticipated.

V.N. SOCIO-ECONOMICS

This section summarizes the findings presented in Chapter V.M, of the *Willow Road/Highway 101 Interchange Final Environmental Impact Report*, prepared by Douglas Wood & Associates, Inc. (March 1999: pp V191-V200). Per the California Environmental Quality Act (CEQA) Guidelines, Section 15150, this Supplemental Environmental Impact Report (SEIR) incorporates the previous study by reference. This section addresses the issues of population, housing, and economics as potentially affected by the proposed project. This section has been updated with year 2000 census data.

1. Existing Conditions

Population. In 2000, the population of the County of San Luis Obispo was 246,681 persons. Between 2000 and 2003, the population increased at an annual growth rate of 1.1%. The State Department of Finance projects that the County's population will increase by approximately 100,000 people by the year 2050.

In 2000, the population of the community of Nipomo was 12,600 persons. Between 1990 and 2000, the population of Nipomo increased at an annual growth rate of 77%.

Housing. According to the 2000 census, 65% of the houses in the San Luis Obispo County region are single family units. Nineteen percent of the houses are multi-family units. The average number of people per household in San Luis Obispo County is 2.48. Nipomo has a higher household average of 2.62 people. In the 2000 census, the median priced house in San Luis Obispo County was $223,100 (by the year 2004 the median house price had risen to $476,000). During this same time period, the median priced house in Nipomo was $244,200, up from $188,600 in 1990.

Economics. According to the 2000 census, the median family income in Nipomo is $54,338 as compared to the county median of $52,447. The South County area generates approximately 24% of the County employment total.

The largest employment sectors in the San Luis Obispo region in 2000 were retail /leisure, government, and trade, transportation and utilities. Agricultural related employment totaled approximately three percent of the total County employment. The retail trade and services sectors of the County economy are expected to continue gaining employment (verified by personal communication, SLO COG, March 2005).

The community of Nipomo provides a variety of retail and service businesses. A list of retail businesses from 1997 was included in the 1999 FEIR in Table 27, pages V-192-195. The majority of these businesses are located in the main thoroughfares such as Tefft Street, Thompson Road, Pomeroy/Orchard Road, and US 101. Many of these businesses are oriented towards and depend on local customers who travel less than 10 miles for these services. The Nipomo Old Town Association is working with other community groups, such as the Chamber of Commerce to boost the number of new businesses and customers.

2. Thresholds of Significance

Significance criteria for evaluating project impacts on socio-economic conditions are derived from the CEQA Guidelines Appendix G and the County of San Luis Obispo Initial Study Checklist. For the purposes of this EIR, the proposed project would represent a significant socio-economic impact if it does one or more of the following:

- Generates a substantial growth of population or housing;
- Displaces a significant number of people;
- Impacts and/or eliminates a significant portion of an existing housing inventory;
- Creates the need for substantial new housing in the area; or
- Substantially influences the operations or viability of existing businesses in the Nipomo area.

3. Project Impacts

Population and Housing. The proposed Willow Road extension, frontage road and US 101 interchange will not directly generate any additional population or housing. However, the proposed project could indirectly lead to an increase in Nipomo's population and housing in the following ways:

- Provision of roadway and access facilities can increase land values and create economic pressures to develop in areas served by or adjacent to these roadways;
- Project roadways offer a logical point for the extension of public utilities (water, sewer, storm, drain, energy) to serve these areas; and
- Project roadways remove an impediment to growth potentially hastening the conversion of vacant or existing agricultural land to more developed uses including additional housing.

Chapter IX, Growth Inducing Impacts, provides a detailed analysis of several potential development scenarios for the project area assuming provision of the proposed project facilities. These future development scenarios assume that development adjacent to Willow Road and the frontage road will be at a density of one dwelling unit per five acres (residential rural) or one unit per acre (residential suburban). An additional development scenario is provided which assumes commercial uses will be developed adjacent to the proposed frontage road. Based on this analysis, it is estimated that the proposed project (Alignment 2), as evaluated in the 1999 FEIR, will in total, indirectly generate between 360 and 640 dwelling units. The eastern frontage road is estimated to indirectly generate between 16 and 80 additional dwelling units or a total of 1.582 million square feet of freeway-oriented commercial use.

The residential growth will also generate additional population in the Nipomo area. The proposed extension road is estimated to generate an additional 1,127 to 2,003 persons and the proposed frontage road is estimated to generate an additional 50-250 persons. These figures are based on the population generation factor of 3.13 persons per household in the Nipomo area.

The potential for this project to indirectly generate additional population and housing could result in a significant *indirect* impact upon the existing population and housing inventory of the project area, as well as add to the overall growth of the project area.

Economics. The proposed Willow Road extension, US 101 interchange and frontage road will not directly generate any new commercial uses or employment. However, the proposed project could indirectly cause growth in new commercial uses and employment if areas adjacent to the eastern frontage road are developed commercially.

If adjacent land is developed commercially, it is projected that it would generate between 1.3 and 1.58 million square feet of commercial space. This additional commercial space would benefit from increased visibility from and exposure to US 101 as compared to existing commercial uses in Nipomo.

Future development of freeway-oriented commercial use along the proposed eastern frontage road would likely attract new businesses of similar character to some of the existing businesses in the Nipomo area. It is possible that commercial development along the frontage road could be a source of competition to existing commercial uses in the Nipomo area. It must be noted, however, that before properties adjacent to the frontage road can be developed commercially, they will require separate environmental review and development approvals by the County of San Luis Obispo. In addition, commercial development in this area will require an amendment to the land use portion of the South County Area Plan. The indirect generation of additional commercial land uses along the proposed eastern frontage road is, however, not considered to represent a potentially significant impact upon the existing economic profile of the Nipomo area. From an economic perspective, the impact of any additional commercial space is reduced to an insignificant level because this future addition will occur within an already diverse business base (approximately 163 different businesses).

Provision of the proposed Willow Road extension, US 101 interchange and frontage road will also potentially generate beneficial impacts to existing businesses in the Nipomo area. Project facilities, through reduced traffic congestion and improved access, will encourage potential customers to travel to and to patronize existing businesses in Nipomo. This improved access should broaden the customer base for these existing businesses.

The traffic and circulation benefits associated with the proposed project facilities are likely to result in positive economic impacts to existing businesses in the Nipomo area.

4. Cumulative Impacts

Completion of the proposed project is not expected to result in any direct cumulative or regional impacts upon the existing population and housing inventory nor directly impact the existing economic profile of the Nipomo area. However, cumulative impacts upon Nipomo's existing population and housing will occur as a result of the indirect growth-inducing impacts potentially caused by new roadways and access facilities.

Chapter IX, Growth Inducing Impacts, of this EIR provides a detailed analysis of the extent of future development and the potential growth–inducing impacts of various project roadways and possible development scenarios in the project area. The proposed project may represent a contributing step in

the long-range development of the cumulative projects listed in Section IVB. Development of these cumulative projects could have a potentially adverse influence (i.e., noise, traffic, air quality) on the population and housing inventory of the project area, while also having a potentially positive economic impact upon the existing businesses in the Nipomo area.

The San Luis Obispo County General Plan provides for residential and commercial growth in the Nipomo area. There are no specific mitigation measures to reduce the potentially significant indirect generation of housing and population in the project area that would be caused by the proposed project.

5. Mitigation Measures

There are no specific mitigation measures to reduce the potentially significant indirect generation of housing and population in the project area that would be caused by the proposed project.

6. Residual Impacts

The proposed Willow Road extension, US 101 interchange and frontage road will not have a significant direct impact on the population, housing inventory, or the existing economic profile of the Nipomo area.

The indirect or growth-inducing impacts of the proposed project facilities upon the population and housing inventory of the Nipomo area are considered to be potentially significant unavoidable adverse impacts which require adoption of a Statement of Overriding Considerations.

The proposed project facilities will, through reduced traffic volumes and congestion, improved access and reduced travel times, provide a beneficial economic impact to existing businesses in the Nipomo area.

VI. SIGNIFICANT EFFECTS WHICH CANNOT BE AVOIDED

Section 15126.2(b) of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) discuss significant impacts. When such impacts cannot be reduced to a less than significant level, the EIR must describe their implications and the justification for proposing the project in spite of the impacts. The majority of the potential impacts resulting from the proposed project can be reduced to less than significant levels through mitigation (see Chapter V). The proposed project would, however, result in several unavoidable, significant impacts as summarized below.

VI.A. LONG-TERM NOISE AT SEVEN RECEPTOR LOCATIONS

Traffic noise created by vehicles that will use the proposed system of roadways in the project area will potentially cause long-term noise impacts (see Section V.C). At ten receptor locations, increased traffic on the proposed Willow Road extension will cause noise levels to exceed the County's exterior noise standard. Sound barriers can feasibly reduce these noise levels to below the County exterior noise standard at three receptor sites.

The other seven receptor locations will experience significant and unavoidable adverse noise impacts. These seven receptor sites occur on parcels that lie adjacent to the proposed extension of Willow Road, which is the source of the traffic noise. The only access to the local road network from these parcels is via Willow Road and a sound barrier with openings for driveway access would not mitigate the noise impact. Therefore, these seven receptor sites cannot feasibly be screened from noise generated from traffic on Willow Road.

VI.B. LONG-TERM IMPACTS TO AGRICULTURE

The proposed project represents a contributing step in the long-range development of the cumulative projects listed in Section IV Cumulative Projects of this SEIR. This indirect or growth-inducing action is likely to hasten the conversion of agricultural lands to development. Therefore, the proposed project will significantly contribute to cumulative impacts to agricultural lands and operations.

Between US 101 and Thompson Road, the proposed project passes through two agricultural preserves (parcel numbers 091-251-017 and 091-301-019). Impacts to these preserves cannot be mitigated. Therefore, the proposed project would have a significant and unavoidable adverse impact on these agricultural preserves.

VI.C. IMPACT TO OAK WOODLAND HABITAT AND OAK TREES

The proposed project would directly impact 28.8 acres of oak woodland habitat, including various subtypes and mixtures of oak habitats. Included in the impacted oak woodland are 938 oak trees, 810 of which are greater than six inches dbh. These data do not include the portion of the project site on the property at 750 Willow Road, which the property owner did not allow to be surveyed for this SEIR. Preparation of an Oak Tree Replacement Plan is prescribed in Mitigation Measure F-15 and Oak Woodland Habitat Creation, Conservation and Enhancement is prescribed in Mitigation Measure F-16. Project impacts to oak woodland and oak trees are nevertheless considered significant adverse impacts until the replacement trees and restored/enhanced habitat is fully ecologically functional.

VI.D. INDIRECT OR GROWTH-INDUCING IMPACTS UPON THE POPULATION AND HOUSING

The proposed project could indirectly lead to an increase in Nipomo's population and housing by facilitating such growth. The proposed project provides facilities that remove an impediment to growth and may change land values, hastening the development of agricultural lands or open space. The proposed project may thus also add to the overall growth of the project area. The indirect or growth-inducing impacts of the proposed project facilities upon the population and housing inventory of the Nipomo area are considered to be potentially significant unavoidable adverse impacts. Such growth in population and housing has nevertheless been anticipated in the County General Plan (see Section V.A), which allows a variety of commercial, residential, and agricultural development on the Nipomo Mesa.

VII. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) discuss significant irreversible environmental changes which would be caused by the construction of the proposed project. Use of resources such as agricultural lands or construction materials during the construction of the project is irreversible, since these resources can not be recovered once they have been committed for the project. The proposed project will cause several significant irreversible changes. These changes are justifiable given the project objectives.

VII.A. DIRECT CHANGES

Construction of the proposed project would directly result in some irreversible environmental changes. In particular, this project would permanently alter existing land uses and thus change the aesthetic environment (see Section V.I). The mitigation measures proposed in Section V.I., however, reduce such impacts to less than significant levels. The project would develop land which currently is used for agriculture or is undeveloped open space. These impacts are discussed at length in Sections V.A and V.H. Because the amount of agricultural and open space land developed for this project is small, impacts to these resources are not considered to be significant. Construction of the project would also consume non-renewable and slowly renewable resources including sand and gravel, asphalt, metals, and water. This environmental change is significant and irreversible.

VII.B. INDIRECT CHANGES

Besides direct impacts, the proposed project would indirectly contribute to irreversible environmental changes. Construction of the proposed project would facilitate other development near the project site (see Chapter IX). By facilitating such development, the proposed project indirectly contributes to the consumption of other non-renewable resources. Development would further reduce the amount of agricultural land and open space that exists in the region. This development will create additional demands on energy resources. Development will result in the construction of homes and other land uses that require energy to operate and maintain. People will also need to be transported to and from these developments. Such activities require energy. Since fossil fuels are currently the principal sources of energy, the proposed project would indirectly reduce existing supplies of these fuels, including natural gas, fuel oil, and gasoline. The construction of additional homes and businesses near the project area will also increase local consumption of water, a potentially renewable resource. These environmental changes are significant, but development around the project area is consistent with the County General Plan (see Section V.A), which allows for a wide range of development on the Nipomo Mesa.

VIII. ALTERNATIVES TO THE PROPOSED PROJECT

PROJECT ALTERNATIVES, OBJECTIVES, AND IMPACTS

This chapter summarizes the analysis of project alternatives from the 1999 Tier 1 FEIR for the subject project. As a Supplemental EIR (SEIR), this document presents minor additions or changes that would be necessary in the previous EIR to make that EIR apply in the changed situation (CEQA Guidelines section 15163 (a)). The supplement to the (previous) EIR need contain only the information necessary for the project as revised (Guidelines Section 15163 (b)). As explained in Chapter 1.0, Introduction, this SEIR evaluates changes in the environment resulting from both the construction and operation of the Willow Road Extension/US 101 Interchange project based on a more detailed project design from that addressed in the 1999 FEIR. As part of the FEIR certification process, the County of San Luis Obispo Board of Supervisors selected Alignment 2 as the preferred project alignment, which has been evaluated herein along with other project design refinements. The environmental effects of Alignment 4 (two alternative locations), several interchange designs and two frontage road alternative locations are included in the summarized alternatives analysis incorporated by reference from the previous Tier 1 EIR. Based on the earlier evaluation of alternatives, and the decision as part of the Tier 1 process, the County is no longer considering alternatives to the selected project including Alignment 4 or the other interchange and frontage roads in lieu of an interchange.

The summarized analysis of project alternatives from the Tier 1 FEIR is presented below.

Project Alternatives

The purpose of evaluating alternatives to the proposed project is to determine whether any different project designs or locations that would feasibly attain most of the basic project objectives can avoid or substantially lessen any of the significant environmental impacts. Through this analysis, an environmentally superior alternative is identified. An EIR does not have to consider every conceivable alternative, but a reasonable range of potentially feasible alternatives. An EIR does not need to consider alternatives that are infeasible. The Alternatives to the proposed project evaluated herein were developed as a range of reasonable alternatives pursuant to the CEQA Guidelines, Section 15126.6. The Environmentally Superior Alternative is identified in Section VIII.G.

The alternatives evaluated in this chapter include:

VIII.A. "No Project/No Build" Alternative
VIII.B. Alternative Project Sites
1. Alignment 4
2. Relocate Alignment 4 – 300 feet to the North
3. Relocate Alignment 4 – 1200 feet to the North

VIII.C. Interchange Design Alternatives
1. Modified Diamond/Partial Cloverleaf
2. Modified "Tight" Diamond

3. Modified "Tight-Spread" Diamond

VIII.D. No Interchange Alternatives

1. Frontage Road between Willow Road and Sandydale Drive (CEQA Baseline Alternative)
2. Frontage Road between Sandydale Drive and Los Berros Road

Project Objectives

The objectives for the proposed project are provided in Chapter III, Project Description, and reiterated below:

- Provide a new direct connection between State Route 1 (SR 1) and US 101 (primary goal);
- Relieve traffic congestion in order to improve traffic flow and levels of service (LOS) at the US 101 interchanges at Tefft Street and Los Berros Road;
- Provide circulation improvements to support planned land uses as identified in the South County Area Plan;
- Reduce future traffic levels on Los Berros Road, West Tefft Street, and Pomeroy Road;
- Reduce travel length and time in the Nipomo area;
- Reduce the need for major modification of the US 101/Tefft Street and Los Berros-Thompson Road interchanges;
- Improve traffic safety by diverting future traffic from nonstandard County roadways to a full standard roadway;
- Provide enhanced emergency access to the residents and businesses of the Nipomo area through the provision of an alternative east-west access and a connection to US 101;
- Provide a new recreational trail from Thompson Avenue to SR-1, improving access to the coastal zone.

Each of the project alternatives evaluated herein are also assessed as to whether or not they meet the majority of the project objectives.

Summary of Proposed Project Impacts

The proposed project involves a two-lane extension of Willow Road from approximately 1,000 feet west of Pomeroy Road to Thompson Road (Figure III-3). A two-lane bridge is proposed to be constructed at the crossing of Willow Road over Nipomo Creek, east of US 101.

An interchange is proposed where the extension of Willow Road would cross US 101. The interchange will be constructed as an undercrossing and includes the construction of two two-lane concrete bridges to carry northbound and southbound US 101 traffic over Willow Road.

A proposed frontage road between Willow Road and Sandydale Drive is proposed to be located approximately 50 feet west of the US 101 right-of-way and a park and ride facility is proposed in the

southwest quadrant of the proposed future interchange at US 101/Willow Road. In addition, two infiltration basins will be constructed and Cherokee Place will be graded and paved for a distance of 1,000 feet to connect with the proposed frontage road.

Potential environmental impacts associated with the proposed project as discussed in Chapter V are summarized below.

Project Objectives. The proposed project meets all of the project objectives.

Land Use and Planning. Construction of the proposed project will not have a significant impact related to land use and planning. The proposed project is consistent with long-range land use and circulation planning for the project area as included in the Land Use and Circulation Elements of the San Luis Obispo County General Plan. Long-term access to residential land uses in the area will be improved through the addition of a paved, all-weather roadway. However, the project would have the potential indirect effect of inducing growth along the Willow Road alignment by providing improved circulation and access to currently undeveloped properties.

Traffic and Circulation. Construction of the project provides some congestion relief at some study area intersections, but increases traffic volume on Willow Road itself. LOS is forecast to improve to acceptable levels at the Los Berros Road/US 101 southbound intersection and the Tefft Street/US 101 northbound intersection during PM peak hours. The proposed project will also improve LOS at the Los Berros Road/US 101 northbound intersection during peak AM hours, although operations will still be an unacceptable LOS at this location. By providing some congestion relief at the Los Berros Road and Tefft Street interchanges, the proposed project also reduces the potential for accidents at these locations. The proposed project significantly reduces the average vehicle delay resulting in improved intersection and ramp operations.

The proposed project would cause LOS to decline slightly at the intersections of Willow Road with both Pomeroy Road and Hetrick Avenue; however, the LOS would be within acceptable levels. In addition, the proposed project should improve emergency access to the Nipomo Mesa region by providing direct freeway access to the middle of this area.

Noise. Short-term noise generated by construction worker commutes and equipment transport would be less than significant. However, construction equipment noise, generated by road and interchange building, would reach 91 dBA L_{max} at residents of nearby homes. Proposed mitigation measures will reduce the duration and severity of the noise; however, because construction-related noise would be short-term/temporary, impacts are considered less than significant.

Potential long-term noise impacts associated with the proposed project originate from traffic noise created by vehicles that will use the proposed system of roadways in the project area. In 10 receptor locations, increased traffic will cause noise levels to exceed the County's exterior noise standard. It is only feasible to mitigate these effects with sound barriers at 3 receptor sites. Therefore, 7 receptor locations will experience significant, unavoidable, and adverse noise impacts.

Air Quality. Use of heavy equipment and earth moving operations during project construction can generate fugitive dust and emissions that may have substantial temporary impacts on local air quality. However, when the APCD emissions thresholds are properly followed and the Best Available Control

Technology for construction equipment (CBACT) is utilized, construction equipment emissions would not exceed the daily thresholds for any of the criteria pollutants: NO_X, ROC, CO, SO_X and PM_{10}. By adhering to Caltrans Standard Specifications for construction (Sections 10 and 18 for dust control and Section 39–306 for asphalt concrete plant) air quality impacts from construction emissions will be less than significant. Therefore, short-term air quality impacts associated with project construction will be less than significant after implementation of standard procedures.

Although no naturally occurring asbestos is indicated on County maps for the project vicinity, the County contains ultramafic and serpentine rock. In the event of the discovery of ultramafic or asbestos containing materials during construction, impacts will be less than significant if standard requirements in the Asbestos Airborne Toxic Control Measures for Construction Grading, Quarrying and Surface Mining Operations are followed.

Over the long-term, however, no additional local or regional air pollutant emissions associated with the proposed project would occur. Because traffic flow/congestion is being improved while no additional vehicle trips are being attracted to the general area, the proposed project is expected to improve air pollution emissions over the long-term. The proposed project is considered to be consistent with the Clean Air Plan for San Luis Obispo County.

Public Services. The proposed project will represent added police patrol responsibilities, create opportunities for people to congregate, and provide a new roadway that would lead to unlit open space. Roadways provide the opportunity for sparks and other combustibles (e.g. cigarettes) from cars which can ignite fires on the side of roadways leading to potential impacts to fire protection and emergency services. Construction also has the potential to disturb underground natural gas and/or electrical service mains, water or sewer mains, and telephone or cable television lines. Each of these potential impacts will be reduced to less than significant through implementation of mitigation measures. Project construction could potentially generate material from site clearance and grading (excess cut soil) for deposition at County Landfills. However, nearly 100% of the construction debris removed from the site is planned to be recycled and converted to a class II road sub-base, and the excess cut soil is proposed to be stockpiled for use on other County construction projects. Therefore, the proposed project would not cause any significant solid waste generation for area landfills.

The proposed project will lead to improved vehicular access to the Nipomo area which will assist law enforcement efforts, and benefit fire protection and emergency services. In addition, the proposed project will result in a reduction of traffic congestion, thereby reducing accident potential. Therefore, in the long-term, the proposed project is beneficial to the provision of public services.

Biological Resources. Construction of the proposed project has the potential to both directly and indirectly impact sensitive wildlife species and nesting birds. Removing or altering sensitive wildlife habitat could kill or injure small mammals, reptiles, amphibians, and other animals of lesser mobility. Vegetation removal will indirectly impact these sensitive wildlife species and nesting birds by removing potential foraging, breeding, denning, and nesting habitat.

Construction could potentially impact several sensitive plant species including Pismo clarkia, sand mesa manzanita, Mile's milkvetch, sand almond, California spineflower, and oak trees. Construction will also impact sensitive habitat such as maritime chaparral, oak woodland, and riparian vegetation

associated with Nipomo Creek. Additional potential impacts include importation of invasive species to native habitats via contaminated construction equipment or imported materials.

Nipomo Creek and the riparian vegetation are potentially subject to Corps of Engineers (Corps) jurisdiction. Therefore, the proposed project has the potential to impact jurisdictional waters. In addition, wildlife may depend upon the Nipomo Creek riparian/wetland habitats as a movement corridor. Although the design of the proposed Willow Road bridge over Nipomo Creek will not directly create impacts to wildlife movement in this corridor, construction noise and operation of the proposed roadways may indirectly impact wildlife movement.

Each of the above impacts can be reduced to less than significant levels with the implementation of mitigation measures. However, project impacts to oak woodland and oak trees are considered significant adverse impacts until the replacement trees and restored/enhanced habitat as prescribed in mitigation measures included in Section V.F is considered viable.

Cultural and Paleontological Resources. The proposed project has the potential to significantly impact a number of cultural resources including CA-SLO-1319H, CA-SLO-1620, CA-SLO-1767, CA-SLO-2133, CA-SLO-2271, and a home built in 1952. Some or all of these resources could be damaged or destroyed by construction of the proposed project. While Pleistocene fossils were found within 2 miles of the current project, no known paleontological resources are know to be within the project limits. However, the proposed project is located on Pleistocene sediments that have a high potential for containing remains of vertebrate fossils at depths below six feet. In addition, this project also has the potential to impact cultural and paleontological resources that have not been discovered during the course of previous archaeological and paleontological surveys. Each of these potential impacts can be reduced to less than significant levels through the implementation of mitigation measures.

Agricultural Resources. The proposed project has the potential to impact agricultural operations including irrigated farming, nurseries and greenhouse operations. In addition, the proposed Willow Road alignment impacts approximately 3 acres of potentially prime agricultural soils in the area between Nipomo Creek and Thompson Avenue. However, with the implementation of mitigation measures, each of these impacts will be reduced to less than significant levels.

The proposed project is located within or adjacent to several existing Williamson Act Agricultural Preserves. Between US 101 and Thompson Road the proposed project passes through two agricultural preserves (parcel numbers 091-251-017 and 091-301-019). Impacts to these preserves cannot be mitigated. Therefore, the proposed project would have a significant, unavoidable, adverse impact on these agricultural preserves.

Aesthetics. Construction of the proposed project will result in short-term visual impacts. However, impacts to views of the area during project construction are considered to be less than significant due to the short-term nature of construction activities and the relatively small area of disruption which will be constructed in phased sections.

The proposed project has the potential to significantly impact existing views through the provision of the Willow Road extension, the frontage road, the US 101 interchange, the removal of oak woodland habitat and a large number of individual oak trees, and lastly, the removal of riparian vegetation along

Nipomo Creek. In addition, lighting of intersections adjacent to the US 101 interchange are considered to be potentially significant. Each of these potential visual impacts can be reduced to less than significant through mitigation.

Geology and Soils. Within the project area, the Wilmar Avenue fault represents a potential threat of surface rupture. When seismic activity from this fault or others in the surrounding region occurs, potentially significant impacts could include cracking of the roadway and structural sections, slumping of slopes, liquefaction, and lateral spreading. Each of these potential impacts can be reduced to less than significant through the implementation of mitigation. Offset along faults could produce uplift and/or tilting of the proposed roadway which could crack pavement and structural sections, creating a minor threat to public safety. In addition, seismic ground shaking can cause sediments to settle several inches. These effects are easily repaired and are not considered significant.
Other potentially significant impacts regarding geology and soils include expansive soils (such as the Cropley Clay series that occur in the project area), landslides (created by cut and fill slopes during construction), and erosion (caused by disturbance of dunes during construction). Mitigation can reduce each of these potential impacts to less than significant.

Drainage, Erosion, and Sedimentation. The proposed project will not expose people or structures to a significant risk of loss, injury, or death involving flooding. It will not significantly alter existing drainages or drainage patterns. Design features, such as the infiltration basins, accommodate the additional runoff generated by the project. In addition, there are no potentially significant impacts anticipated from a seiche, tsunami, or mudflow since the conditions necessary to produce these events are not present in the project area.

Ground disturbance and cut and fill slopes created by construction of the proposed project could increase erosion and sedimentation potential. With the implementation of mitigation measures, however, the proposed project will have no potentially significant impacts resulting from erosion and sedimentation.

Water Quality. Construction of the proposed project has the potential to introduce pollutants into Nipomo Creek causing a significant impact to water quality. In the long-term, an increase in impervious area through the provision of new roads will increase the volume and character of storm runoff which has the potential to significantly impact water quality. Mitigation measures including adherence to County and Caltrans requirements and Treatment Best Management Practices can reduce these potential impacts to less than significant levels.

Hazardous Materials. During construction, there may be significant impacts related to hazardous materials. Construction activities could disturb soils containing contaminants such as lead. Ingestion or inhalation of airborne dust from contaminated soil may pose a potential threat to human health. Construction of the proposed project could potentially impacts two underground Unocal pipelines. Disturbance may cause hydrocarbon contamination of the subsurface soils which would be a significant impact. Each of these potential impacts can be reduced to less than significant levels with the implementation of mitigation measures. The Air Quality Section addresses potential impacts from asbestos containing materials that could potentially be encountered during construction.

In the long-term, the proposed roadway and interchange would not emit hazardous emissions or involve hazardous materials handling. Use of the roadways and interchange would not create any potential impacts related to hazardous materials.

Socio-Economics. The proposed Willow Road extension, frontage road and US 101 interchange will not directly generate any additional population or housing. However, the proposed project could indirectly lead to an increase in Nipomo's population and housing resulting in a significant *indirect* impact upon the existing population and housing inventory of the project area as well as add to the overall growth of the project area. The indirect or growth-inducing impacts of the proposed project facilities upon the population and housing inventory of the Nipomo area are considered to be potentially significant unavoidable adverse impacts.

The proposed Willow Road extension, US 101 interchange, and frontage road will not directly generate any new commercial uses or employment. However, the proposed project could indirectly cause growth in new commercial uses and employment if areas adjacent to the eastern frontage road are developed commercially. The indirect generation of additional commercial land uses along the proposed eastern frontage road is, however, not considered to represent a potentially significant impact upon the existing economic profile of the Nipomo area. The proposed project will potentially benefit existing businesses through reduced traffic congestion and improved access.

Summary of Significant Unavoidable Project Impacts
As was discussed in the previous section, the majority of the potential project impacts can be reduced to less than significant levels through mitigation. The few significant impacts that cannot be feasibly mitigated are given below.

- Long-term traffic noise at 7 receptor locations
- Direct impacts to oak woodland habitat and oak trees
- Long-term project specific impacts to two agricultural preserves (parcels 091-251-017 and 091-301-019) and indirect cumulative impacts to agriculture
- Indirect or growth-inducing impacts upon the population and housing supply in Nipomo

VIII.A. "NO PROJECT/NO BUILD" ALTERNATIVE

CEQA section 15126.6(e) (1) requires that the EIR include evaluation of a No Project alternative along with its environmental impacts. Section 15126.6(e) (2) states that the "*no project analysis shall discuss the existing conditions at the time the Notice of Preparation is published, and at the time the environmental analysis is commenced, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.*"

Under the "No Project/No Build" Alternative, no construction would occur and the existing roadway in the project area would remain in its present condition. The following impacts would be associated with this alternative.

VIII.A. Project Objectives. The "No Project/No Build" Alternative does not meet any of the project objectives. Without the project, there would be no direct connection between SR 1 and US 101, and traffic congestion would not be relieved at the US 101 interchanges at Tefft Street and Los Berros Road. There would be no improvements to circulation, traffic safety, or emergency access and no reduction to future traffic levels on Los Berros Road, West Tefft Street, and Pomeroy Road. The need for major modification of the US 101/Tefft Street and Los Berros-Thompson Road interchanges would remain as well as the need for improved recreational access to the coastal zone.

VIII.A. Land Use and Planning. The "No Project/No Build" Alternative is inconsistent with long-range land use and circulation planning for the project area as included in the Land Use and Circulation Elements of the San Luis Obispo County General Plan since these plans call for the Willow Road extension and US 101 interchange. In addition, without the project, long-term access to residential land uses in the area would not be improved. Therefore, Alternative VIII.A would have greater land use and planning impacts than the proposed project.

VIII.A. Traffic and Circulation. Without the project being constructed, increases in traffic would lead to unacceptable deteriorations in LOS and delay at several ramp junctures and intersections by 2030. During both the AM and PM peak hours, unacceptable LOS would be experienced at the northbound US 101 ramp/Los Berros Road intersection, the southbound US 101 ramp/Tefft Street intersection, and the northbound US 101/Los Berros offramp. During the peak PM hours, unacceptable LOS would also be experienced at the northbound US 101/Tefft Street offramp, the southbound US 101/ Los Berros intersection, and the northbound US 101/Tefft Street intersection. Forecast 2030 traffic will potentially congest both the northbound and southbound US 101/Tefft Street ramp intersections such that vehicles would back up on to the mainline US 101. Overall, Alternative VIII.A would cause greater traffic and circulation impacts than the proposed project.

VIII.A. Noise. Because there would be no construction involved with Alternative VIII.A potentially high noise levels from construction activities would not occur. In addition, long-term traffic noise will not increase at the 10 receptor locations and the significant, unavoidable impact at 7 of these receptors sites will be avoided. Therefore, the "No Project/No Build" Alternative would avoid the significant, unavoidable and adverse impacts associated with long term traffic noise caused by the proposed project.

VIII.A. Air Quality. Short-term air quality impacts associated with project construction will be avoided by Alternative VIII.A since there will be no construction. Over the long-term, however, the "No Project/No Build" Alternative would lead to a worsening in air quality. Traffic flow would not be improved and traffic congestion would increase in several areas. Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. Because motor vehicles produce more exhaust per mile at slower speeds, the increased traffic would lead to greater impacts on air quality than the proposed project.

The proposed project would have the potential to expose construction workers to asbestos containing materials through grading and earthwork, as the County is known to have Naturally Occurring Asbestos (NOA). The "No Project/No Build" Alternative would not have construction activities and therefore would have no potential impact from exposure to NOA.

VIII.A. Public Services. Public service impacts such as added police patrol responsibilities, potential from combustibles from cars to ignite fires, and potential disturbance to underground utilities would be avoided by this alternative. However, the "No Project/No Build" Alternative would not improve vehicular access to the Nipomo area and therefore, it would not assist law enforcement efforts, benefit fire protection, or emergency services. Since Alternative VIII.A would not reduce traffic congestion, it would not reduce accident potential. Therefore, this alternative has greater impacts to public services than the proposed project.

VIII.A. Biological Resources. The "No Project/No Build" Alternative would not change the existing biological setting and therefore, it does not have the potential to cause impacts to biological resources. The proposed project has potential to significantly impact sensitive wildlife, sensitive vegetation, sensitive habitat, jurisdictional waters, a wildlife corridor, and nesting birds. This alternative would avoid each of these impacts on biological resources.

VIII.A. Cultural Resources. Because the "No Project /No Build" Alternative does not involve any construction, potential impacts to CA-SLO-1319H, CA-SLO-1620, CA-SLO-1767, CA-SLO-2133, CA-SLO-2271, a home built in 1952, and unknown archaeological sites are avoided. Therefore, Alternative VIII.A would have less potential to cause impacts to cultural resources than the proposed project.

VIII.A. Agricultural Resources. Agricultural resources will not be impacted by the "No Project/No Build" Alternative because no construction or changes to the existing setting are anticipated. Because the proposed project has the potential to impact agricultural operations, prime agricultural soils, and agricultural preserves, Alternative VIII.A would have less impact on agricultural resources than the proposed project. This alternative would avoid significant, unavoidable and adverse impacts to two agricultural preserves that would be caused by the proposed project.

VIII.A. Aesthetics. Because the "No Project/No Build" Alternative would not change the existing setting, it does not have the potential to cause aesthetic impacts. Because the proposed project has potential to significantly impact existing views and add significant amounts of new lighting, this alternative would have less aesthetic impacts.

VIII.A. Geology and Soils. With Alternative VIII.A, there is no potential for problems related to seismic activity, expansive soils, landslides, or erosion. Because these factors may cause impacts with regard to the proposed project, this alternative would avoid potential geology and soils impacts.

VIII.A. Drainage, Erosion, and Sedimentation. Neither the "No Project/No Build" Alternative nor the proposed project would expose people or structures to a significant risk from flooding, a seiche, tsunami, or mudflow. In addition, neither will significantly alter existing drainages or drainage patterns. Construction of the proposed project could increase erosion and sedimentation potential, but these impacts would be avoided by Alternative VIII.A. Therefore Alternative VIII.A would have fewer drainage erosion, and sedimentation impacts when compared to the proposed project.

VIII.A. Water Quality. Because this alternative does not entail any construction or lead to an increase in impervious area, it would not alter existing water quality conditions. Since the proposed project has the potential to impact water quality, Alternative VIII.A would have less impacts than the proposed project.

VIII.A. Hazardous Materials. Alternative VIII.A avoids potential hazardous materials impacts that could occur with the proposed project. Since there would not be any construction with this alternative, there is no potential to disturb contaminated soil, Naturally Occurring Asbestos (see Air Quality discussion), or impact underground oil pipelines. Therefore, the "No Project/No Build" Alternative would have less potential for impacts from hazardous materials than the proposed project.

VIII.A. Socio-Economics. The "No Project/No Build" Alternative would not directly or indirectly generate any additional population or housing nor would it generate new commercial uses or employment. Therefore, the potentially significant unavoidable impacts of the proposed project upon the population and housing inventory of the Nipomo area would be avoided. Therefore, Alternative VIII.A would result in less of an impact to socio-economics than the proposed project. However, the potential benefit to existing businesses through reduced traffic congestion would not occur.

VIII.B. ALTERNATIVE PROJECT SITES

According to the South County Area Plan, Circulation Element, the "Highway 101/Tefft Street interchange cannot adequately serve the expanding population, [and] poses serious limitations on movement of emergency vehicles" (Circulation Element p.5-4). Construction of an interchange with an extension of Willow Road (Circulation Element p.5-9, 5-10) is discussed in the Circulation Element as a way to relieve circulation problems at Tefft Street. In addition, improvement to arterials including the extension of Willow Road "easterly from Pomeroy Road to intersect Highway 101 at a proposed interchange, then east to Thompson Road with rural arterial standards, including a Class II bike lane" (Circulation Element p.5-10) is discussed to carry traffic between population centers and to serve large volumes of traffic within an urban area. Lastly, the Circulation Element proposes improvements of the North Frontage Road "from Sandydale to the proposed interchange at the Willow Road extension" (Circulation Element p.5-13) to enable traffic to move between minor roads or streets and arterial roads or streets.

Because the proposed project is intended to satisfy the requirements of the South County Area Plan Circulation Element, there are limited alternative project sites. However, a few feasible alterative locations for the Willow Road/US 101 interchange and Willow Road extension were identified in the 1999 FEIR prepared by Douglas Wood & Associates. Although these alternative alignments and design configuration were not selected as the preferred project by the County Board of Supervisors in 1999, the discussion of these alternatives and their comparative effects on the environment are incorporated by reference below from the 1999 FEIR.

VIII.B.1 Alignment 4. Alternative VIII.B.1 is Alignment 4 as described in the 1999 FEIR. Both the proposed project and Alignment 4 involve the extension of Willow Road immediately west of the intersection of Pomeroy and Willow roads to Hetrick Avenue. Alignment 4 diverges from the proposed project at Hetrick Road. Where the proposed project heads northeast from this intersection, Alignment 4 continues in an easterly direction and then turns southeast so that it parallels the proposed project approximately 2,700 feet to the south (Figure VIII-1).

The impacts associated with this alternative are summarized from the findings of the 1999 FEIR and are discussed below.

VIII.B.1 Project Objectives. This alternative meets all of the project objectives.

VIII.B.1 Land Use and Planning. Like the proposed project, Alternative VIII.B.1 would not have a significant impact related to land use and planning. The proposed project is consistent with long-range land use and circulation planning and long-term access to residential land uses in the area would be improved. However, this alternative alignment creates a significant impact on the C&M nursery that is avoided by the proposed project. Therefore, this alternative has a greater impact on existing land uses than the proposed project.

VIII.B.1 Traffic and Circulation. This alternative would have essentially the same traffic and circulation impacts and benefits as the proposed project. LOS should improve at the southbound Los Berros Road/US 101 intersection and the northbound Tefft Street/US 101 intersection during PM peak hours. LOS should also improve at the northbound Los Berros Road/US 101 intersection during peak AM hours. By providing some congestion relief at the Los Berros Road and Tefft Street interchanges, Alternative VIII.B.1 also reduces the potential for accidents at these locations.

Like the proposed project, this alternative may cause LOS to decline slightly at the intersections of Willow Road with both Pomeroy Road and Hetrick Avenue. In addition, Alternative VIII.B.1 should improve emergency access to the Nipomo Mesa region by providing direct freeway access to the middle of this area.

VIII.B.1 Noise. Like the proposed project, construction related noise from Alternative VIII.B.1 could generate significant noise levels affecting residents of nearby homes. However, fewer homes are located within 50 feet of Alignment 4 when compared to the proposed project. Therefore, impacts from constructed related noise would be less than the proposed project. In either case, short-term construction noise is considered less than significant.

Because there are fewer sensitive receptors within 50 feet of Alignment 4, this alternative would also have less long-term noise impacts than the proposed project. Nevertheless, like the proposed project, it is likely that increased traffic would cause noise levels to exceed the County's exterior noise standard, leading to significant, unavoidable, and adverse noise impacts that would require mitigation.

VIII.B.1 Air Quality. Like the proposed project, construction of Alternative VIII.B.1 will generate fugitive dust and combustion emissions that may have substantial temporary impacts on local air quality. However, adhering to APCD emissions thresholds, Best Available Control Technology for construction equipment (CBACT), and Caltrans Standard Specifications for construction would reduce potential short-term air quality impacts to less than significant. Like the proposed project, this alignment could cause potential impacts from disturbance of ultramafic/serpentine rock which contains asbestos materials. It is unknown whether either Alignment 4 or the proposed project alignment would have this material; mitigation would be required for both.

Over the long-term, no additional local or regional air pollutant emissions associated with Alternative VIII.B.1 or the proposed project would occur. In addition, both this alternative and the proposed project would benefit air quality in the long term through the reduction of traffic congestion. Therefore, this alternative would have essentially the same air quality effects as the proposed project.

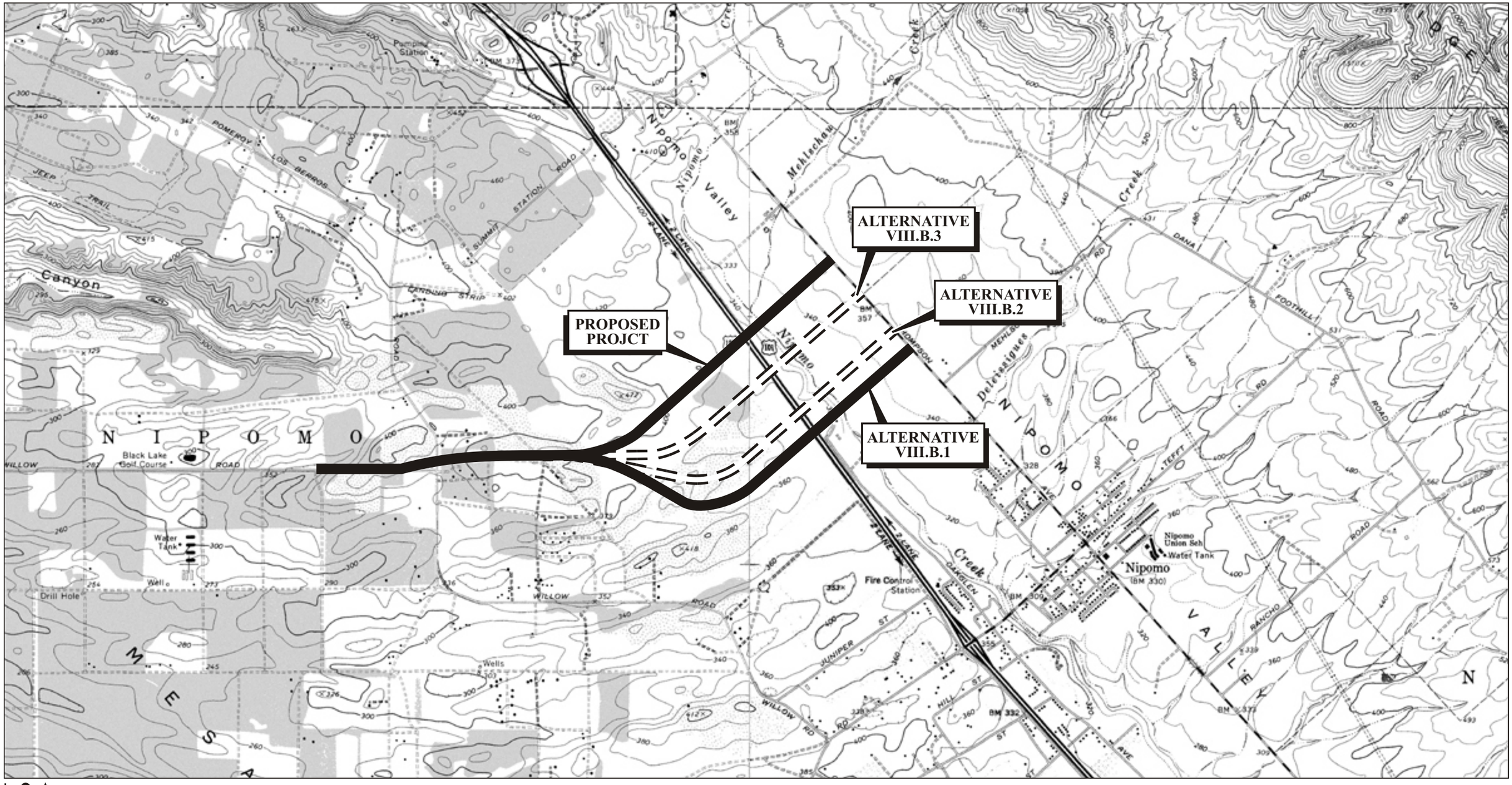

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FIGURE VIII-1

SOURCE: DOUGLAS WOOD & ASSOCIATES, INC.

Willow Road Extension/U.S. 101 Interchange Project
Alternative Project Sites

I:\RAJ334\G\Alternative Sites.cdr (11/29/04)

VIII.B.1 Public Services. Like the proposed project, this alternative could impact underground utilities, create additional police patrol responsibilities, fire protection and emergency service opportunities, generate excess cut soil and construction debris, and disturb underground utilities. In addition, Alternative VIII.B.1 is similar to the proposed project in that it would lead to improved vehicular access, thereby assisting law enforcement efforts, fire protection and emergency services. Overall, this alternative has similar impacts and benefits to public services as the proposed project.

VIII.B.1 Biological Resources. Like the proposed project, construction of Alternative VIII.B.1 would have the potential to significantly impact sensitive wildlife, sensitive vegetation, sensitive habitat, jurisdictional waters, a wildlife corridor, and nesting birds. Construction of this alternative would impact a larger area of jurisdictional wetlands and a larger area of maritime chaparral. Impacts to these resources could be reduced to less than significant levels with implementation of the mitigation measures described for the proposed project. However, fewer oaks and a much smaller area of oak woodland habitat would be directly impacted since Alignment 4 runs through an area that has been used for farming (Canada property). Since this alternative reduces the area where significant, unavoidable and adverse impacts will occur, this alternative would cause less of a biological impact than the proposed project.

VIII.B.1 Cultural Resources. Alignment 4 would avoid impacts to CA-SLO-1319H, CA-SLO-1620, CA-SLO-1767, CA-SLO-2133, and CA-SLO-2271. However, Alignment 4 would impact two other archaeological sites, CA-SLO-2131 and CA-SLO-2132, as well as any unknown sites. Because fewer sites have the potential to be impacted by Alignment 4, this alternative would have less impact on cultural resources than the proposed project.

VIII.B.1 Agricultural Resources. Similar to the proposed project, Alternative VIII.B.1 would have the potential to impact agricultural operations, and prime agricultural soils in the area between Nipomo Creek and Thompson Avenue. However, the mitigation measures prescribed for the proposed project would also be applicable to this alternative and, each of these impacts could be reduced to less than significant levels.

Alternative VIII.B.1 would avoid impacts to the two agricultural preserves (parcel numbers 091-251-017 and 091-301-019) located within the proposed project area. However, this alternative would disrupt a different agricultural preserve located between US 101 and Thompson Road (parcel number 091-301-062). Therefore, the Alignment 4 alternative would also have significant, unavoidable, and adverse impacts on agricultural preserves. In addition, this alternative intersects the C&M Nursery, thereby impacting agricultural operations at this location. Therefore, when compared to the proposed project, Alternative VIII.B.1 has greater impacts on agricultural resources.

VIII.B.1 Aesthetics. Like the proposed project, this alternative introduces intersection lighting, an interchange and surface streets to the existing setting. It also removes riparian vegetation along Nipomo Creek and leads to the removal of oak woodland habitat. However, fewer oaks along US 101 would be removed since Alignment 4 runs through an area that has been used for farming (Canada property) and has fewer oak trees. Therefore, this alternative may cause less of an aesthetic impact than the proposed project.

VIII.B.1 Geology and Soils. The geologic setting of this alternative is very similar to the proposed project. Therefore, potential impacts including seismic activity, expansive soils, landslides, and erosion would be the same as the proposed project.

VIII.B.1 Drainage, Erosion, and Sedimentation. Neither the proposed project nor Alternative VIII.B.1 would expose people or structures to a significant risk from flooding, a seiche, tsunami, or mudflow. In addition, neither would significantly alter existing drainages or drainage patterns. Construction of this alternative or the proposed project could increase erosion and sedimentation potential. Overall, this alternative has similar drainage, erosion, and sedimentation impacts as the proposed project.

VIII.B.1. Water Quality. Alignment 4 would require roughly the same amount of construction as the proposed project. In addition, the same amount of impervious area would be added as described for the proposed project. Therefore, this alternative has similar potential as the proposed project to introduce pollutants into Nipomo Creek and alter the volume and character of storm runoff. Alternative VIII.B.1 and the proposed project would cause the same or similar impacts to water quality as the proposed project.

VIII.B.1 Hazardous Materials. Potential impacts related to hazardous materials from Alternative VIII.B.1 are essentially identical to impacts associated with the proposed project. This alternative and the proposed project require roughly the same amount of construction and therefore have the same potential to disturb contaminated soil and the two Unocal pipelines. In the long-term, neither Alternative VIII.B.1 nor the proposed project would have potential to cause impacts related to hazardous materials.

VIII.B.1 Socio-Economics. Like the proposed project, this alternative could indirectly lead to an increase in Nipomo's population and housing and it could indirectly cause growth in new commercial uses and employment. The indirect or growth-inducing impacts of Alternative VIII.B.1 or the proposed project are considered to be potentially significant unavoidable adverse impacts. In addition, Alternative VIII.B.1 is similar to the proposed project since it would potentially benefit existing businesses through reduced traffic congestion and improved access.

VIII.B.2 Relocate Alignment 4 – 300 feet to the North

This alternative alignment is very similar to the Alignment 4 alternative, except that the Willow Road extension between Hetrick Avenue and Thompson Avenue and the US 101 interchange would be shifted 300 feet to the north. Where Alignment 4 is approximately 2,700 feet south of the proposed project alignment, Alternative VIII.B.2 would be 2,400 feet to the south (Figure VIII-1). This alternative was discussed in the 1999 FEIR and potential impacts are very similar to the Alignment 4 alternative (Alternative VIII.B.1). Therefore, impacts will not be discussed by topic, but are briefly summarized.

Alternative VIII.B.2 is similar to the proposed project and Alternative VIII.B.1 in that it meets all of the project objectives. In addition, impacts to traffic and circulation, noise, air quality, public services, geology and soils, drainage, erosion, and sedimentation, water quality, hazardous materials, and socio-economics are the same or similar to the proposed project.

This alternative is similar to Alternative VIII.B.1 in that it creates a significant impact on the C&M nursery that is avoided by the proposed project. Therefore, this alternative has a greater impact on existing land uses and agricultural resources than the proposed project. It is also similar to Alternative VIII.B.1 since fewer oaks along US 101 would be removed than the proposed project since both Alternatives VIII.B.1 and VIII.B.2 traverse through an area that has been used for farming (Canada property). Therefore, this alternative may cause less aesthetic and biological impacts than the proposed project.

In terms of cultural resources, Alternative VIII.B.2 avoids potential impacts of either the proposed project or Alternative VIII.B.1 because it does not impact any known archaeological sites. Therefore, Alternative VIII.B.2 has less impact on cultural resources than the proposed project.

VIII.B.3 Relocate Alignment 4 – 1200 feet to the North

Alternative III.B.3 is very similar to the Alignment 4 alternative, except that the Willow Road extension between Hetrick Avenue and Thompson Avenue and the US 101 interchange would be shifted 1,200 feet to the north. Where Alignment 4 is approximately 2,700 feet south of the proposed project alignment, Alternative VIII.B.3 would be 1,500 feet to the south (Figure VIII-1).

Like Alternative VIII.2, this alternative was discussed in the 1999 FEIR and potential impacts are very similar to the Alignment 4 alternative (Alternative VIII.B.1). Therefore, impacts will not be discussed by topic, but are briefly summarized.

Alternative VIII.B.3 is similar to the proposed project in that it meets all of the project objectives. In addition, impacts to traffic and circulation, noise, air quality, public services, aesthetics, geology and soils, drainage, erosion, and sedimentation, water quality, hazardous materials, and socio-economics are the same or similar to the proposed project.

This alternative is similar to Alternatives VIII.B.1 and VIII.B.2 in that it creates a significant impact on the C&M nursery that is avoided by the proposed project. Therefore, this alternative has a greater impact on existing land uses and agricultural resources than the proposed project. It is also similar since fewer oaks along US 101 would be removed than the proposed project since this alternative traverses through an area that has been used for farming (Canada property). Therefore, this alternative may cause less aesthetic and biological impacts than the proposed project.

In terms of cultural resources, Alternative VIII.B.3 avoids potential impacts of either the proposed project or Alternative VIII.B.1 because it does not impact any known archaeological sites. Therefore, Alternative VIII.B.3 has less impact on cultural resources than the proposed project.

VIII.C. INTERCHANGE DESIGN ALTERNATIVES

Three alternative interchange configurations were identified and discussed in detail in the 1999 FEIR prepared for this project. The description and impact analysis for each of these alternatives are summarized from the original FEIR below.

VIII.C.1 Modified Diamond/Partial Cloverleaf

The design for this alternative includes a diamond interchange configuration on the west side of the freeway and a partial cloverleaf configuration in the southeast quadrant (Figure VIII-2). The project area for this alternative would resemble the proposed project in all areas except that the partial cloverleaf would require a much larger take of the C&M Nursery property and no right-of-way would be acquired in the northeast quadrant of the interchange.

Alternative VIII.C.1 meets all of the project objectives and has similar impacts as the proposed project in terms of noise, air quality, public services, aesthetics, geology and soils, drainage, erosion, and sedimentation, hazardous materials, and socio-economics.

While this alternative creates many of the same traffic and circulation improvements as the proposed project, the modified diamond/partial cloverleaf design is difficult for drivers to use and may cause safety and operational difficulties. Therefore, Alternative V.C.1 has greater impacts to traffic and circulation than the proposed project. The partial cloverleaf also creates a significant impact on the C&M nursery that is avoided by the proposed project. Therefore, this alternative also has a greater impact on agricultural resources and existing land uses than the proposed project.

With regard to cultural and biological resources, Alternative VIII.C.1 avoids potential impacts since the northeast quadrant of the interchange is not directly impacted. Since this alternative avoids impacts to site CA-SLO-1620, it would have less impact on cultural resources than the proposed project. This quadrant also contains relatively undisturbed oak woodland with a thick understory of native shrubs. Because this area will be preserved, potential impacts to biological resources are reduced when compared to the proposed project.

VIII.C.2 Modified "Tight" Diamond

The "Tight" Diamond interchange involves moving the southbound US 101 on and off ramps closer to the freeway than currently proposed by the project (Figure VIII-3). However, the northbound off ramp would be slightly farther from US 101 than the proposed project. This alternative would reduce the distance between off-ramps to approximately 300 feet.

Because Caltrans recommends at least 525 feet between off-ramps, the "tight" diamond may not be approved by Caltrans, or would require a design modification approval.

While the project limits would be reduced on the west side of US 101, few potential significant impacts described for the proposed project would be avoided by this alternative. Alternative VIII.C.2 meets all of the project objectives and has similar impacts to noise, air quality, public services, cultural resources, aesthetics, geology and soils, drainage, erosion, and sedimentation, water quality, hazardous materials, and socio-economics.

Since the northbound off ramp is farther from US 101 than the proposed project, this alternative would encroach upon the C&M Nursery. Therefore, this alternative would have greater impacts to existing land use and agricultural resources than the proposed project.

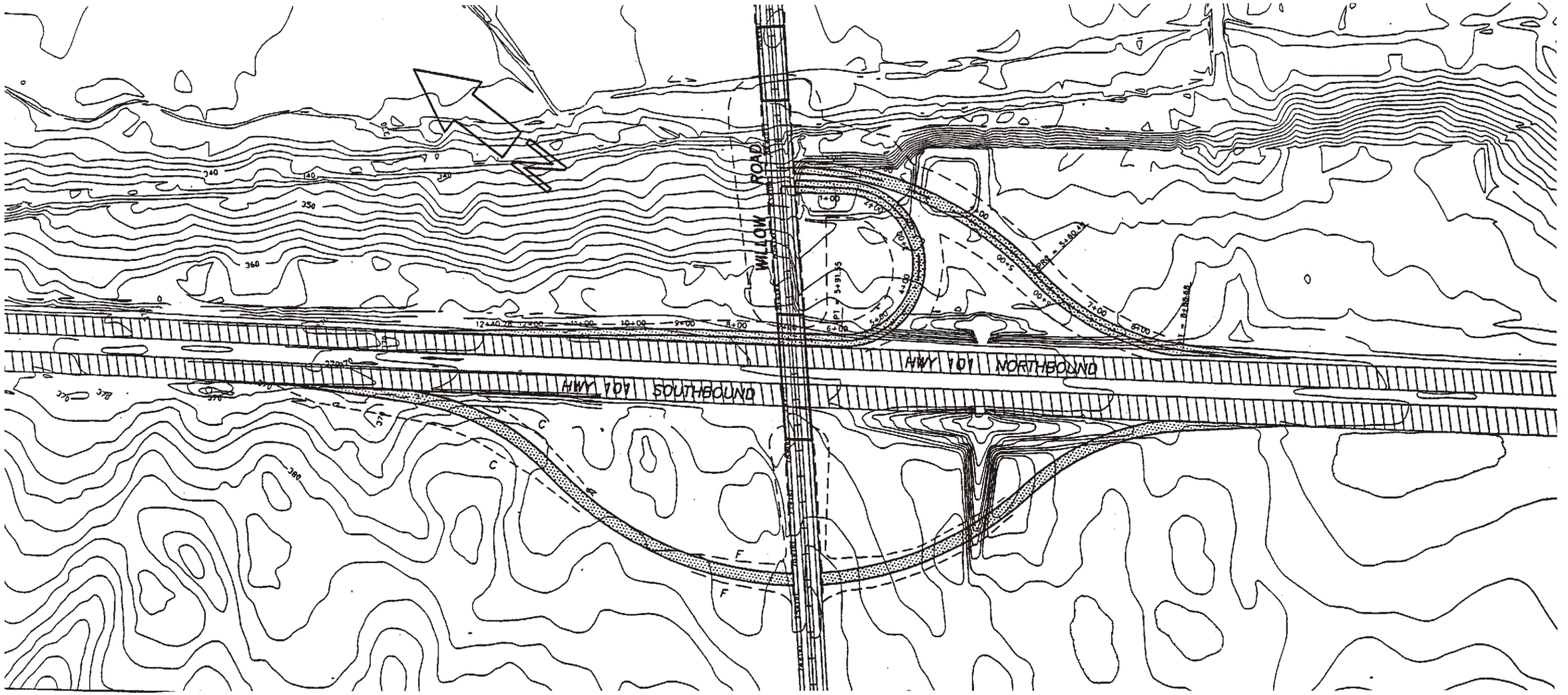

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FIGURE VIII-2

SOURCE: DOUGLAS WOOD & ASSOCIATES, INC.

Willow Road Extension/U.S. 101 Interchange Project

Alternative VIII.C.1, Modified Diamond/Partial Cloverleaf Interchange

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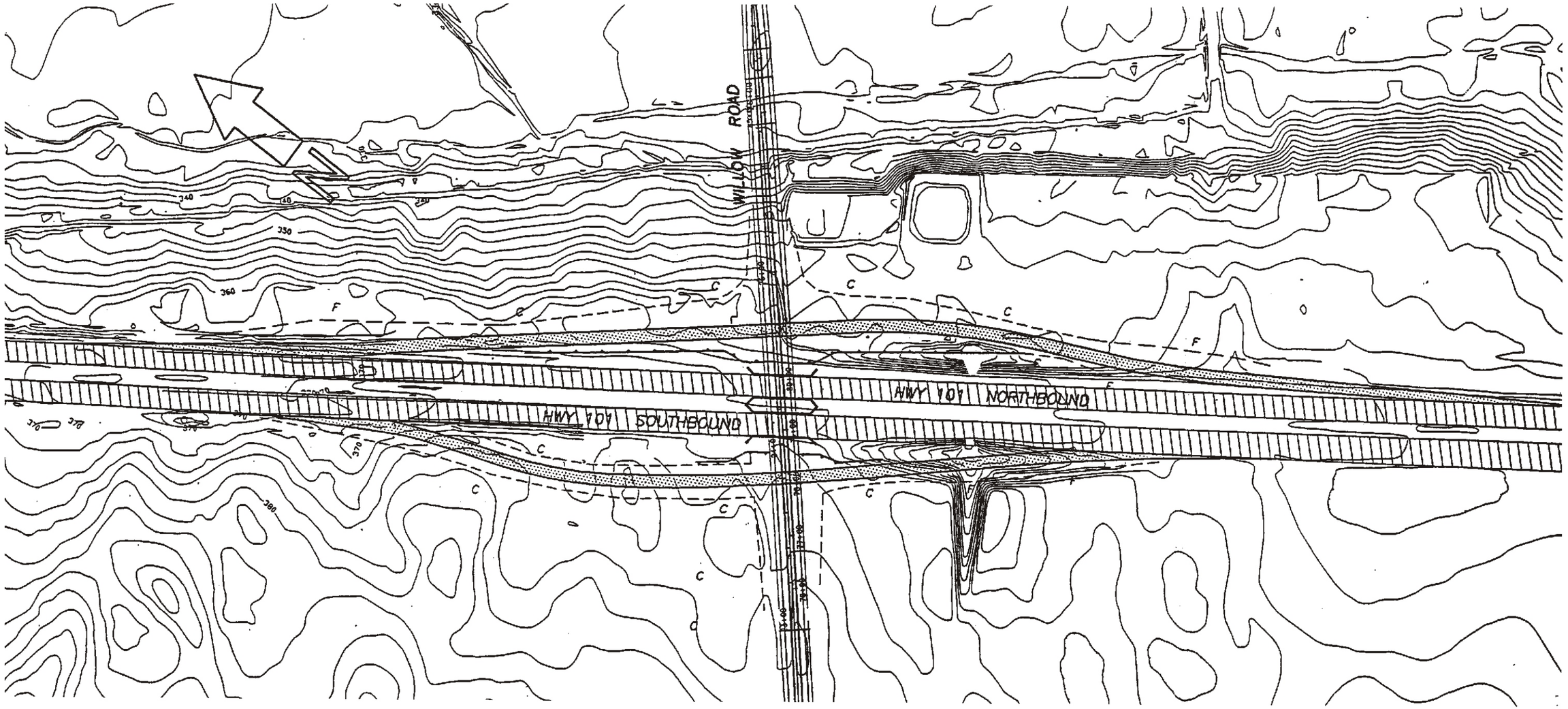

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FIGURE VIII-3

SOURCE: DOUGLAS WOOD & ASSOCIATES, INC.

Willow Road Extension\U.S. 101 Interchange Project

Alternative VIII.C.2, Modified "Tight" Diamond Interchange

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In terms of biological resources, a relatively undisturbed oak woodland with a thick understory of native shrubs in the northeast quadrant of the interchange will be preserved. Therefore, potential impacts to biological resources are reduced when compared to the proposed project.

The "tight" diamond design creates safety and operational difficulties for drivers. Therefore, Alternative V.C.1 would have greater traffic hazard impacts than the proposed project.

VIII.C.3 Modified "Tight-Spread" Diamond

The "Tight-Spread" Diamond interchange involves moving the northbound US 101 on and off ramps closer to the freeway, and moving the southbound US 101 on and off ramps further from the freeway than currently proposed by the project (Figure VIII-4). This alternative allows for the Caltrans recommended 525 feet between off-ramps.

The project limits would be reduced on the east side of the US 101 interchange, but no potential impacts described for the proposed project would be avoided by this alternative. Alternative VIII.C.3 meets all of the project objectives and has similar impacts to traffic and circulation, noise, air quality, public services, cultural resources, biological resources, aesthetics, geology and soils, drainage, erosion, and sedimentation, water quality, hazardous materials, and socio-economics.

Like Alternative VIII.C.2, the northbound off ramp for this alternative is farther from US 101 than the proposed project. Therefore, this alternative would encroach upon the C&M Nursery and would have greater impacts to existing land use and agricultural resources than the proposed project.

VIII.D. NO INTERCHANGE ALTERNATIVES

Because many objectives of the Willow Road Extension project involve relieving traffic congestion at adjacent interchanges and roadways, the Traffic Analysis (Appendix B) assessed several different design alternatives. Two of these alternatives involve eliminating the interchange at Willow Road and US 101 and redirecting traffic along frontage roads. Each of these alternatives is discussed below.

VIII.D.1 Frontage Road between Willow Road and Sandydale Drive

In the Traffic Analysis, this alternative is referred to as the CEQA Baseline Alternative. Like the proposed project, Alternative VIII.D.1 involves a two-lane extension of Willow Road. The Willow Road extension would follow the same alignment as the proposed project from approximately 1,000 feet west of Pomeroy Road to 50 feet west of the US 101 right-of-way. At this terminus, Willow Road would connect to a frontage road that would connect between Willow Road and Sandydale Drive. This frontage road is identical to the frontage road described for the proposed project. Alternative VIII.D.1 does not entail any modifications to US 101 and it does not construct any roadway segments east of US 101 (Figure VIII-5).

The following impacts would be associated with this alternative.

VIII.D.1. Project Objectives. Because this alternative does not provide an interchange or direct access on to US 101, it fails to meet the objective of providing a new direct connection between SR 1 and US 101 and it fails to provide circulation improvements identified in the South County Area Plan.

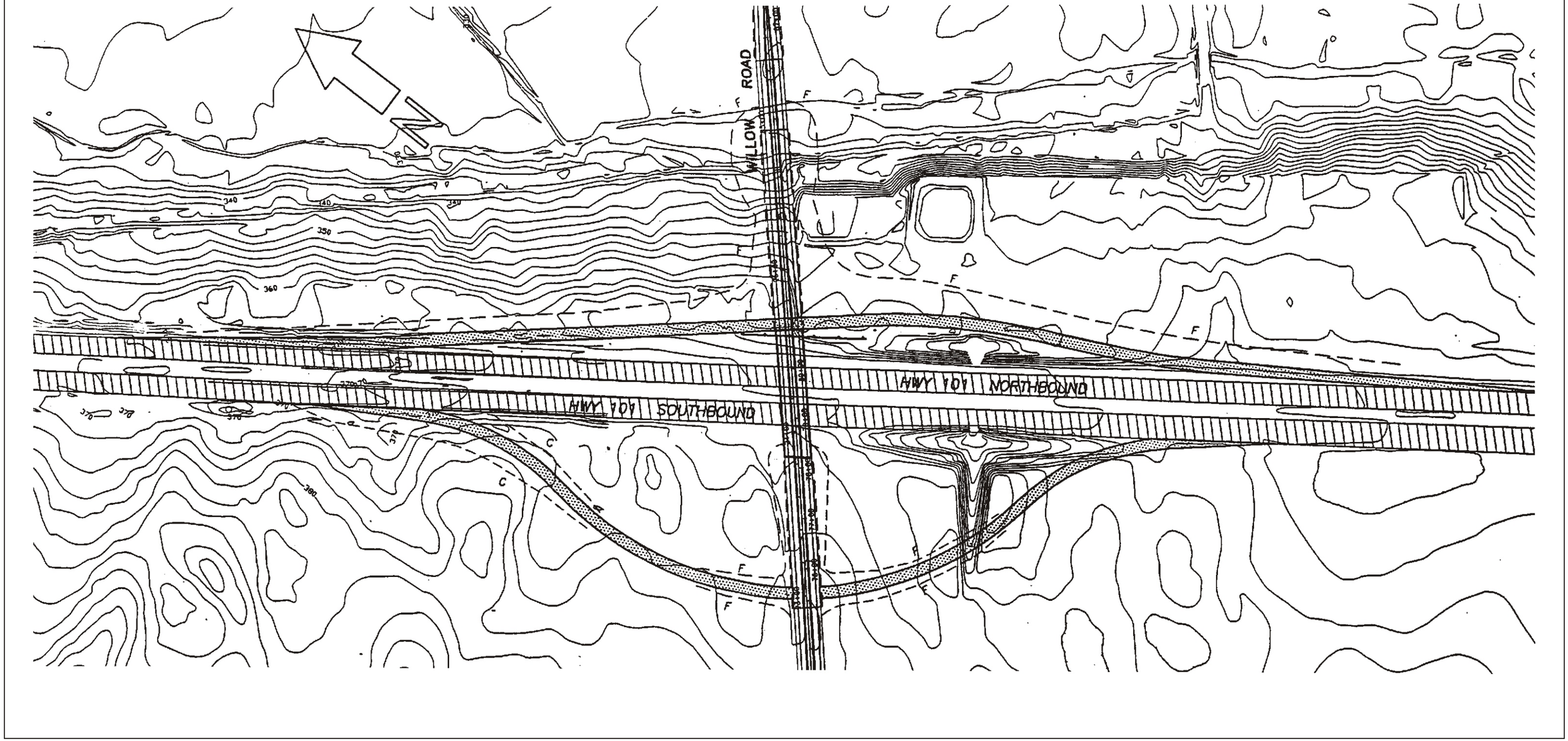

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FIGURE VIII-4

Willow Road Extension/U.S. 101 Interchange Project

Alternative VIII.C.3, Modified "Tight-Spread" Diamond Interchange

SOURCE: DOUGLAS WOOD & ASSOCIATES, INC.

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In addition, it fails to relieve traffic congestion LOS at the US 101 interchanges at Tefft Street and Los Berros Road and the need for major modification of the US 101/Tefft Street and Los Berros-Thompson Road interchanges would remain. Lastly, enhanced emergency access through the provision of an alternative connection to US 101 and a new recreational trail from Thompson Avenue to SR-1 would not be provided.

VIII.D.1. Land Use and Planning. Alternative VIII.D.1 is inconsistent with long-range land use and circulation planning for the project area as included in the Land Use and Circulation Elements of the San Luis Obispo County General Plan because it lacks a new interchange at Willow Road/US 101. However, with no new roadway segment east of US 101, impacts to the C&M Nursery would be avoided. Indirect growth inducing effects would be approximately the same as those of the proposed project. Therefore, this alternative has less land use and planning impacts than the proposed project.

VIII.D.1. Traffic and Circulation. As was discussed in the project objectives, this alternative does not relieve traffic congestion LOS at the US 101 interchanges at Tefft Street and Los Berros Road. In

fact, as there would be no new interchange at Willow Road/US 101 under this alternative, there would be more congestion at the Tefft Street/ US 101 intersections than there would be with the proposed project. In addition, improved emergency access would not be provided since direct freeway access is not part of this alternative. Therefore, Alternative VIII.D.1 has greater traffic and circulation impacts than the proposed project.

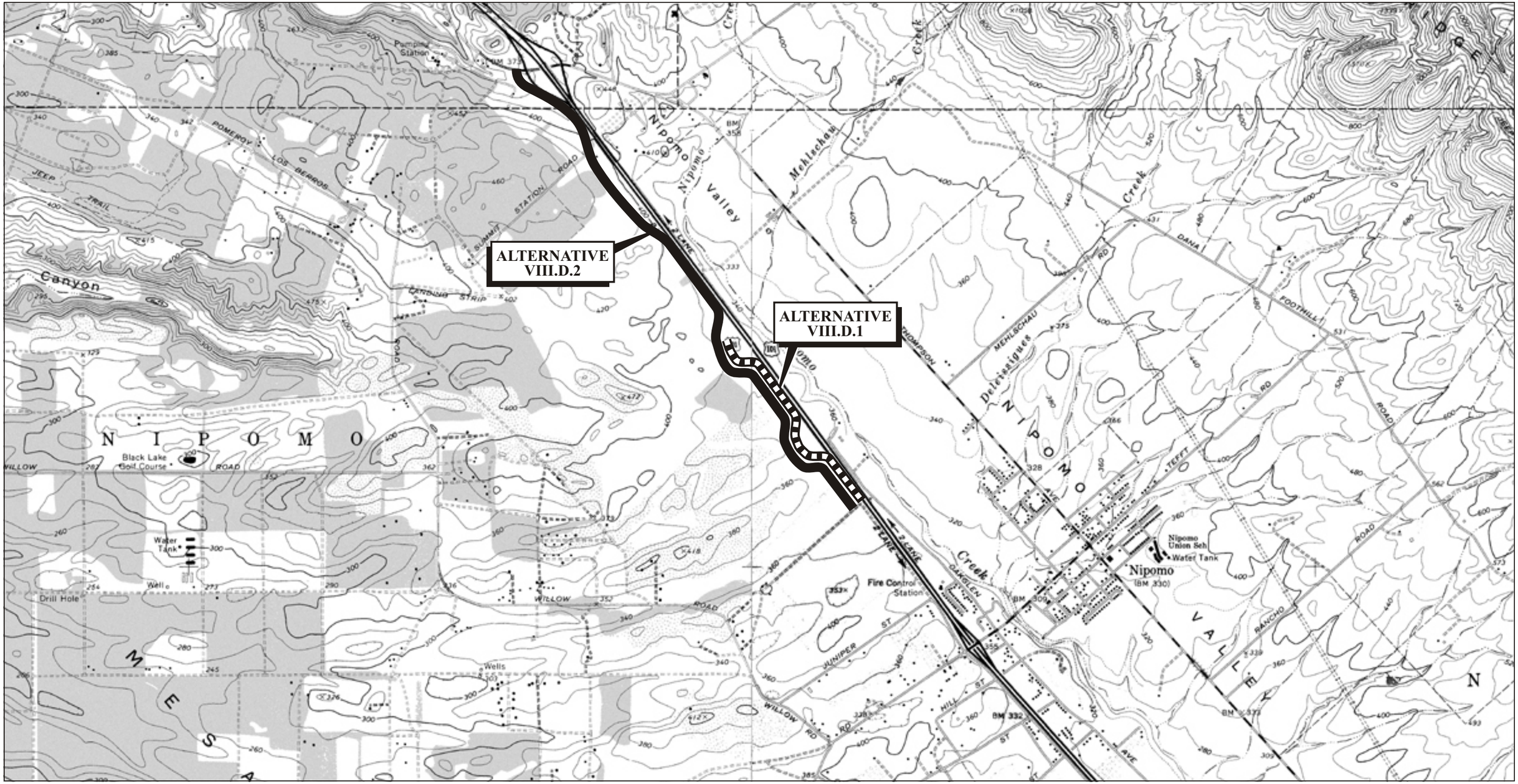
VIII.D.1. Noise. Because there is no interchange or connection to Thompson Avenue associated with this alternative, construction noise would be less than the proposed project. However, like the proposed project, construction related noise generated by road building could still cause significant noise levels, to residents of nearby homes. Potential long-term noise impacts would also be similar to the proposed project. Noise would originate from traffic using the proposed system of roadways in the project area. It is likely that the same 7 receptor locations discussed in the project impacts would experience significant, unavoidable, and adverse noise impacts since the road alignment west of US 101 is the same as the proposed project.

VIII.D.1. Air Quality. Like the proposed project, construction may generate fugitive dust and combustion emissions that may have substantial temporary impacts on local air quality. Naturally Occurring Asbestos could be encountered with this alternative as well as with the proposed project. Because there is no interchange or connection to Thompson Avenue, there would be less construction and therefore less construction emissions than the proposed project.

While the proposed project would result in improved air quality in the long-term, Alternative VIII.D.1 would worsen air quality. Traffic flow would not be improved and the traffic congestion would increase in several areas. Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes.

Because motor vehicles produce more exhaust per mile at slower speeds, the increased traffic would lead to greater impacts on air quality than the proposed project.

VIII.D.1. Public Services. This alternative is similar to the proposed project since both have the potential to impact buried utilities. However, as was discussed in the project objectives for this



LSA

FIGURE VIII-5

Willow Road Extension/U.S. 101 Interchange Project

No Interchange Alternatives

SOURCE: DOUGLAS WOOD & ASSOCIATES, INC.

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alternative, enhanced emergency access through the provision of an alternative connection to US 101 would not be provided. In addition, increased access for police and fire protection would not be provided. Therefore, Alternative VIII.D.1 has greater impacts to public services than the proposed project.

VIII.D.1. Biological Resources. Like the proposed project, construction of Alternative VIII.D.1 has the potential to impact sensitive wildlife species and nesting birds. In addition, this alternative is similar to the proposed project since construction could potentially impact several sensitive plant species and sensitive habitat. However, since this alternative does not involve construction of an interchange or new road segment east of US 101, relatively undisturbed oak woodland with a thick understory of native shrubs east of US 101 and north of the C&M Nursery will be unaffected. In addition, riparian vegetation associated with Nipomo Creek would be unaffected, thereby avoiding impacts to sensitive habitat, jurisdictional waters, and a wildlife corridor. Overall, Alternative VIII.D.1 would have fewer impacts to biological resources than the proposed project.

VIII.D.1. Cultural Resources. Because no construction would occur east of US 101, no impacts would be made to sites CA-SLO-1620, CA-SLO-1319H, or CA-SLO-1767. Therefore, this alternative avoids some of the impacts to cultural resources that would be caused by the proposed project.

VIII.D.1. Agricultural Resources. Like the proposed project, this alternative has the potential to impact agricultural operations such as irrigated farming. However, Alternative VIII.D.1 avoids potential impacts to nurseries, greenhouses, prime agricultural soils and Williamson Act Agricultural Preserves because there will be no construction of a new interchange at US 101 or road segment east to Thompson Avenue. Therefore, this alternative would result in fewer impacts to agricultural resources than the proposed project.

VIII.D.1. Aesthetics. Alternative VIII.D.1 avoids potential aesthetic impacts such as altering views through the provision of the US 101 interchange (raised US 101 mainline over Willow Road would not occur), and addition of lighting at intersections adjacent to the US 101 interchange. Therefore, potential aesthetic impacts are reduced by this alternative when compared to the proposed project.

VIII.D.1. Geology and Soils. Like the proposed project, seismic activity, expansive soils, landslides, and erosion all have the potential to create significant impacts to this alternative. However, the project limits would be smaller than the proposed project since there would be no interchange or at grade road connection to Thompson Avenue. Therefore, impacts to geology and soils are slightly less than those of the proposed project.

VIII.D.1. Drainage, Erosion, and Sedimentation. Neither the proposed project nor Alternative VIII.D.1 would expose people or structures to a significant risk from flooding, a seiche, tsunami, or mudflow. In addition, neither would significantly alter existing drainages or drainage patterns. Construction of either the proposed project or Alternative VIII.D.1 could increase erosion and sedimentation potential, however, the reduced project limits and avoidance of Nipomo Creek would reduce this potential for Alternative VIII.D.1. Overall, Alternative VIII.D.1 has less potential for impacts to drainage, erosion, and sedimentation because this alternative affects less area than the proposed project.

VIII.D.1. Water Quality. Because Alternative VIII.D.1 does not include any construction east of US 101, this alternative does not have the potential to introduce pollutants into Nipomo Creek. Also, the reduced project limits would create less impervious area than the proposed project, thereby reducing the potential to alter storm runoff volume and character. When compared to the proposed project, this alternative would impact water quality to a lesser degree compared with the proposed project.

VIII.D.1. Hazardous Materials. Alternative VIII.D.1 has less potential to impact hazardous materials than the proposed project for two reasons. First, this alternative requires less construction than the proposed project and therefore has less potential to disturb contaminated soil or ultramafic/serpentine rock. Second, with no construction east of US 101, there is no potential to impact the two Unocal pipelines and introduce hydrocarbon into subsurface soils. In the long-term, neither this alternative nor the proposed project has potential to cause hazardous material impacts.

VIII.D.1. Socio-Economics. Like the proposed project, this alternative could indirectly lead to an increase in Nipomo's population and housing and it could indirectly cause growth in new commercial uses and employment. The indirect or growth-inducing impacts of Alternative VIII.D.1 or the proposed project are considered to be potentially significant unavoidable adverse impacts. However, this alternative would have greater socio-economic impacts than the proposed project because it would not benefit existing businesses through reduced traffic congestion and improved access.

VIII.D.2. Frontage Road between Sandydale Drive and Los Berros Road

This alternative resembles Alternative VIII.D.1, but the frontage road would extend continuously from Sandydale Drive north to Los Berros Road. Like Alternative VIII.B.1, Willow Road would be extended from Pomeroy Road to 50 feet west of the US 101 right-of-way. Traffic that reaches the eastern end of Willow Road could access the freeway either by moving north along the frontage road and using the Los Berros interchange or by heading south along the frontage road and taking the Tefft Street interchange. Alternative VIII.D.2 does not entail any modifications to US 101 and it does not construct any roadway segments east of US 101(Figure VIII-5).

The following impacts would result from this alternative.

VIII.D.2. Project Objectives. Like Alternative VIII.D.1, this alternative does not provide an interchange or direct access on to US 101. Therefore, it fails to meet the primary objective of providing a new direct connection between SR 1 and US 101 and it fails to provide circulation improvements identified in the South County Area Plan. In addition, it fails to relieve traffic congestion LOS at the US 101 interchanges at Tefft Street and Los Berros Road and the need for major modification of the US 101/Tefft Street and Los Berros-Thompson Road interchanges would remain. Lastly, enhanced emergency access through the provision of an alternative connection to US 101 and a new recreational trail from Thompson Avenue to SR-1 would not be provided.

VIII.D.2. Land Use and Planning. Due to the lack of an interchange, this alternative is inconsistent with long-range land use and circulation planning for the project area as included in the Land Use and Circulation Elements of the San Luis Obispo County General Plan. In addition, with no interchange and no road segment constructed east of US 101, impacts to the C&M Nursery would be avoided. Therefore, this alternative has less land use and planning impacts than the proposed project.

VIII.D.2. Traffic and Circulation. Like Alternative VIII.D.1, this alternative has greater traffic and circulation impacts than the proposed project. This alternative does not relieve traffic congestion LOS at the US 101 interchanges at Tefft Street and Los Berros Road. In addition, improved emergency access would not be provided.

VIII.D.2. Noise. With no interchange or connection to Thompson Avenue, construction noise associated with this alternative would be less than the proposed project. However, like the proposed project, construction related noise generated by road building could still cause significant noise levels at nearby homes. In fact, additional homes are located on the west side of US 101, between Willow Road and Los Berros Road. Therefore, more sensitive receptors would be affected by construction of this alternative.

In addition, potential long-term noise impacts would originate from traffic noise using the proposed system of roadways. It is likely that in addition to the 7 receptor locations discussed in the project impacts, additional sensitive receptors would experience significant, unavoidable and adverse noise impacts. Overall, Alternative VIII.D.2 has greater noise impacts than the proposed project.

VIII.D.2. Air Quality. Air quality impacts for this alternative are similar to the impacts discussed for Alternative VIII.D.1. Construction impacts would be similar to the proposed project. Although there is no interchange or connection to Thompson, there is additional construction west of US 101 between Willow Road and Los Berros Road. Similar to the proposed project, exposure to asbestos containing material in ultramafic/serpentine rock could occur during project grading. Alternative VIII.D.2 would cause greater air quality impacts in the long-term than the proposed project because traffic flow is not being improved. The increase in traffic congestion would lead to greater impacts on air quality than the proposed project.

VIII.D.2. Public Services. Alternative VIII.D.2 has greater impacts to public services than the proposed project since enhanced emergency access, through the provision of an alternative connection to US 101, would not be provided. In addition, increased access for police and fire protection would not be provided. Lastly, there is an increased potential for underground utilities to be impacted during construction of the frontage road north to Los Berros Road.

VIII.D.2. Biological Resources. Like the proposed project and Alternative VIII.D.1, construction of Alternative VIII.D.2 has the potential to impact sensitive wildlife species, nesting birds, sensitive plant species and sensitive habitat. However, since this alternative does not involve construction east of US 101, riparian vegetation associated with Nipomo Creek would be preserved, thereby avoiding impacts to sensitive habitat, jurisdictional waters, and a wildlife corridor.

With no interchange at US 101, this alternative also preserves a relatively undisturbed oak woodland with a thick understory of native shrubs east of US 101, but it would impact additional oak woodland and oak trees west of US 101 between Willow Road and Los Berros Road. Since Alternative VIII.D.2 exacerbates the significant, unavoidable adverse impacts created by the proposed project, this alternative would have greater overall impacts to biological resources.

VIII.D.2. Cultural Resources. Because no construction would occur east of US 101, no impacts would be made to sites CA-SLO-1620, CA-SLO-1319H, or CA-SLO-1767. Therefore, this

alternative avoids some of the impacts to cultural resources that would be caused by the proposed project. One additional site, CA-SLO-2272, would be impacted by this alternative. However, this site has been found to be ineligible for listing on the California Register and impacts would therefore not be considered significant. Overall, Alternative VIII.D.2 has fewer cultural resource impacts than the proposed project.

VIII.D.2. Agricultural Resources. Potential impacts of this alternative are similar to those described for Alternative VIII.D.1 because both alternatives avoid construction east of US 101. This alternative has the potential to impact agricultural operations such as irrigated farming, but it avoids potential impacts to nurseries, greenhouses, prime agricultural soils and Williamson Act Agricultural Preserves. Therefore, this alternative would result in fewer impacts to agricultural resources than the proposed project.

VIII.D.2. Aesthetics. Alternative VIII.D.2 avoids potential aesthetic impacts such as altering views through the provision of the US 101 interchange, removal of riparian vegetation along Nipomo Creek, and addition of lighting at intersections adjacent to the US 101 interchange. However, impacts, such as those caused by the removal of oak trees along US 101 would be exacerbated as additional habitat would be lost between Willow Road and Los Berros Road. Since the loss of oaks can be mitigated eventually when new habitat is ecologically functional, aesthetic impacts overall are reduced by this alternative when compared to the proposed project.

VIII.D.2. Geology and Soils. Like the proposed project, seismic activity, expansive soils, landslides, and erosion all have the potential to create significant impacts to this alternative. Although there is no interchange or connection to Thompson Avenue associated with this alternative, the overall project areas would be similar in size to the proposed project because of the connection to Los Berros Road. Therefore, impacts to geology and soils are similar to those described for the proposed project.

VIII.D.2. Drainage, Erosion, and Sedimentation. Like the proposed project, Alternative VIII.D.2 would not expose people or structures to a significant risk from flooding, a seiche, tsunami, or mudflow. Neither the proposed project nor Alternative VIII.D.2 would significantly alter existing drainages or drainage patterns. However, since there would be no construction east of US 101 with this alternative, the potential to impact Nipomo Creek is avoided. Construction of either the proposed project or Alternative VIII.D.2 could increase erosion and sedimentation potential. Overall, Alternative VIII.D.2 has slightly less potential to impact drainage, erosion, and sedimentation than the proposed project.

VIII.D.2. Water Quality. Because there would be no construction east of US 101, the potential to introduce pollutants into Nipomo Creek is avoided. The frontage road between Willow Road and Los Berros Road would introduce roughly the same amount of impervious area as the proposed road between Willow Road and Thompson Avenue. Therefore, the potential for this alternative to alter storm runoff volume and character is similar to the potential of the proposed project. Overall, Alternative VIII.D.1 has less potential to impact water quality than the proposed project.

VIII.D.2. Hazardous Materials. Alternative VIII.D.2 and the proposed project would entail roughly the same amount of construction. Therefore, they have similar potential to disturb contaminated soil and/or Naturally Occurring Asbestos. However, since this alternative does not require a new interchange or construction of Willow Road east of US 101, the potential to impact the two Unocal

pipelines is avoided. In the long-term, neither this alternative nor the proposed project has potential to cause hazardous material impacts. Overall, this alternative has fewer hazardous materials impacts than the proposed project.

VIII.D.2. Socio-Economics. Socio-economic impacts from this alternative are similar to those described for Alternative VIII.D.1. This alternative could indirectly lead to an increase in Nipomo's population and housing and it could indirectly cause growth in new commercial uses and employment. Like the proposed project, these indirect or growth-inducing impacts are considered to be potentially significant, unavoidable and adverse. In addition to these indirect or growth-inducing impacts, benefits to existing businesses through reduced traffic congestion and improved access provided by the project would be eliminated with this alternative. Therefore, Alternative VIII.D.2 has greater socio-economic impacts than the proposed project.

VIII.E. ALTERNATIVES CONSIDERED BUT WITHDRAWN FROM FURTHER CONSIDERATION

The Traffic Analysis (Appendix B) includes one alternative that has been withdrawn from consideration. In this alternative, the Willow Road extension and US 101 interchange would not be constructed, but the existing Tefft Street/US 101 interchange would be improved. Both the southbound and northbound ramps to US 101 at Tefft Street would be widened so that they could obtain turn lanes. This alternative eases congestion at the Tefft Street interchange by adding to the capacity of that interchange to handle traffic. However, traffic congestion problems at this intersection would be greatly exacerbated during construction since the interchange would become closed to motorists for long periods of time. In addition, this alternative fails to meet the project objective of providing a new direct connection between SR 1 and US 101 and it fails to provide circulation improvements identified in the South County Area Plan. Lastly, this alternative would require a significant amount of property acquisition.

VIII.F. SUMMARY COMPARISON OF ALL ALTERNATIVES

Table VIII-1 provides a summary comparison of the environmental effects of the alternatives considered compared to the proposed project.

VIII.G. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Per the CEQA Guidelines, Section 15126.6, the purpose of evaluating alternatives to the proposed project is to determine whether any different project designs or locations, could feasibly attain most of the basic project objectives. In the case of this project, the basic objective includes providing a new direct connection between SR 1 and US 101.

The "No Project/No Build" Alternative (VIII.A) would have less impacts (or no impacts) compared with the proposed project on noise, biological resources, cultural resources, agricultural resources, aesthetics, geology and soils, drainage, erosion and sedimentation, water quality, hazardous materials, and socio-economics. However, the "No Project/No Build" Alternative would have greater impacts on land use and planning, traffic and circulation, air quality and public services (emergency access).

In addition, the "No Project/No Build" Alternative would not meet any of the project objectives. Therefore, the "No Project/No Build" Alternative would not be the Environmentally Superior Alternative.

The two "No Interchange" alternatives (Alternative VIII.D.1: Frontage Road between Willow Road and Sandydale Drive and Alternative VIII.D.2: Frontage Road between Sandydale Drive and Los Berros Road) would not meet most of the project objectives. Alternative VIII.D.2 would have greater impacts than the proposed project on traffic and circulation, noise, air quality, public resources, biological resources and socio-economics. Alternative VIII.D.1 would have greater impacts than the proposed project to traffic and circulation, air quality, public services and socioeconomics. Therefore, these two No Interchange alternatives would not reduce the proposed project impacts in these issue areas, respectively.

In addition to the proposed project, there are six alternatives (three Alternative Project Sites and three Interchange Design Alternatives) that meet all or most of the project objectives. Although some of these alternatives reduce the amount of oak woodland and number of oak trees being impacted, none of the alternatives reduce the significant unavoidable biological impacts to less than significant levels. In addition, none of these alternatives eliminate significant unavoidable impacts from construction and long-term traffic noise, agricultural resources, or socio-economics. The three Alternative Project Sites and the three Interchange Design Alternatives exacerbate the significant, unavoidable, adverse impacts to agricultural resources because each encroaches upon the C&M Nursery.

When all alternatives are considered, there are no potential alternatives that meet most of the project objectives and avoid or substantially minimize all of the significant impacts identified for the proposed project. Therefore, the proposed project is considered to be the Environmentally Superior Alternative.

VIII-1. Summary Comparison of All Alternatives

Environmental Topic	Proposed Project	VIII.A. "No Project/No Build" Alternative	VIII.B. Alternative Project Sites		
			1. Alignment 4	2. Relocate Alignment 4 - 300 feet North	3. Relocate Alignment 4 - 1200 feet North
Project Objectives	Meets All Objectives	Meets No Objectives	Meets All Objectives	Meets All Objectives	Meets All Objectives
Land Use and Planning	Potentially Significant	Greater Impacts	Greater Impacts	Greater Impacts	Greater Impacts
Traffic and Circulation	No Impacts	Greater Impacts	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts
Noise	Significant Unavoidable	Less Impacts	Less Impacts	Same or Similar Impacts	Same or Similar Impacts
Air Quality	Potentially Significant	Greater Impacts	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts
Public Services	Potentially Significant	Greater Impacts	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts
Biological Resources	Significant Unavoidable	Less Impacts	Less Impacts	Less Impacts	Less Impacts
Cultural Resources	Potentially Significant	Less Impacts	Less Impacts	Less Impacts	Less Impacts
Agricultural Resources	Significant Unavoidable	Less Impacts	Greater Impacts	Greater Impacts	Greater Impacts
Aesthetics	Potentially Significant	Less Impacts	Less Impacts	Less Impacts	Less Impacts
Geology and Soils	Potentially Significant	Less Impacts	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts
Drainage, Erosion and Sedimentation	Potentially Significant	Less Impacts	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts
Water Quality	Potentially Significant	Less Impacts	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts
Hazardous Materials	Potentially Significant	Less Impacts	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts
Socio-Economics	Significant Unavoidable	Less Impacts	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts

VIII-1. Summary Comparison of All Alternatives

Environmental Topic	VIII.C. Interchange Design Alternatives			VIII.D. No Interchange Alternatives	
	1. Modified Diamond/Partial Cloverleaf	2. Modified "Tight" Diamond	3. Modified "Tight-Spread" Diamond	1. Frontage Road b/w Willow Rd. and Sandydale Dr.	2. Frontage Road b/w Sandydale Dr. and Los Berros Rd.
Project Objectives	Meets All Objectives	Meets All Objectives	Meets All Objectives	Meets Some Objectives	Meets Some Objectives
Land Use and Planning	Greater Impacts	Greater Impacts	Greater Impacts	Less Impacts	Less Impacts
Traffic and Circulation	Greater Impacts	Greater Impacts	Same or Similar Impacts	Greater Impacts	Greater Impacts
Noise	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts	Greater Impacts
Air Quality	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts	Greater Impacts	Greater Impacts
Public Services	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts	Greater Impacts	Greater Impacts
Biological Resources	Less Impacts	Less Impacts	Same or Similar Impacts	Less Impacts	Greater Impacts
Cultural Resources	Less Impacts	Same or Similar Impacts	Same or Similar Impacts	Less Impacts	Less Impacts
Agricultural Resources	Greater Impacts	Greater Impacts	Greater Impacts	Less Impacts	Less Impacts
Aesthetics	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts	Less Impacts	Less Impacts
Geology and Soils	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts	Less Impacts	Same or Similar Impacts
Drainage, Erosion and Sedimentation	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts	Less Impacts	Same or Similar Impacts
Water Quality	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts	Less Impacts	Less Impacts
Hazardous Materials	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts	Less Impacts	Less Impacts
Socio-Economics	Same or Similar Impacts	Same or Similar Impacts	Same or Similar Impacts	Greater Impacts	Greater Impacts

IX. GROWTH INDUCING IMPACTS

Section 15126.2(d) of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) discuss ways in which a proposed project could directly or indirectly foster economic or population growth, or the construction of additional housing. Direct growth inducing impacts are generally associated with aspects of a project that could remove obstacles to population or other growth. The extension of new services and facilities to an individual site can also reduce development constraints to other nearby areas and serve to induce further development in the vicinity if excess service capacity is created in the local area. Indirect or secondary growth inducing impacts typically consist of growth induced in the region by the demand for additional housing as a result of employment generation, and demand for goods and services associated with population increases caused by, or attracted to an area as a result of new development.

The growth inducing impacts discussed in this chapter have been summarized from Chapter VIII of the *Willow Road/Highway 101 Interchange Final Environmental Impact Report*, prepared by Douglas Wood & Associates, Inc. (March 1999: pp. VIII-1-VIII-9). Per the CEQA Guidelines, section 15150, this EIR incorporates the previous study by reference. The 1999 Final Environmental Impact Report (FEIR) is on file and available for public review at the County of San Luis Obispo Planning and Building Department.

IX.A. REMOVAL OF AN IMPEDIMENT TO GROWTH

The proposed project could indirectly cause growth-inducing impacts upon adjacent areas by eliminating potential development constraints, namely lack of access. Development of roadways can increase adjacent land values, thereby creating economic pressures to develop. In addition, roadways create a logical point of extension for public utilities including water, sewer, and storm drain and energy services. By removing impediments to growth, the proposed project will hasten the conversion of existing vacant and agricultural land to more developed uses.

IX.B. PRECEDENT SETTING EFFECTS

The proposed project may set a precedent by creating an example for what can be achieved on parcels with similar land use designations or lands located in similar environments. The development of a new roadway in a sparsely populated area represents the initial step in a series of precedent setting events. Development adjacent to or served by the project will represent the next precedent setting step for subsequent development. These precedent setting effects are significant since much of the land that will be developed is currently agricultural or located within or adjacent to Williamson Act agricultural preserves.

IX.C. ECONOMIC, POPULATION, AND HOUSING GROWTH

The 1999 FEIR analyzed several development scenarios to determine the extent of potential growth-inducing impacts. At that time, the proposed project included two Alternative Willow Road Alignments (Alignment 2 and Alignment 4), and two alternative frontage road alignments (eastern frontage road and western frontage road). Currently, the project includes Willow Road Alignment 2 and the southern half of the eastern frontage road. Only the development scenarios that included the current project alignment are summarized below.

Scenario A
Scenario A includes conversion of existing agricultural uses to rural residential (five acre minimum lot size) along Willow Road (approximately 350 acres), in addition to some highway serving commercial uses at the interchange.

Scenario B
Scenario B includes conversion of the same area as Scenario A. In addition, existing residential rural uses located adjacent to the proposed project will be converted to residential suburban uses (one acre minimum lot size) with the same highway serving commercial uses at the interchange.

Scenario C
For the area adjacent to the proposed frontage road, Scenario C includes conversion to freeway-oriented commercial development of approximately 25.9 acres. No conversions from to agricultural uses to rural residential or residential rural uses to residential suburban uses are included in this scenario.

Table IX-1 below shows the growth-inducing impacts by scenario. Each scenario also assumes development of the 290 acre Canada property based upon the general uses encouraged for the Specific Plan as stated in the South County Area Plan. Details of the Canada property development plan are included in Table IX-2.

Table IX-1: Growth Inducing Impacts

	Scenario A (rural residential)	Scenario B (suburban residential)	Scenario C (commercial)
Willow Road	70 dwelling units	350 dwelling units	-
Frontage road	-	-	.25 million sq. ft.

Table IX-2: Canada Property Development

Land Use	Acres	Dwelling Units
Residential	47.9 acres	260 dwelling units
	15.0 acres	30 dwelling units
Commercial/Residential	15.4 acres	-
Highway Commercial	4.0 acres	-
Business Park	15.0 acres	-
School	20.0 acres	-
Open Space	172.7 acres	-
Total	290.0 acres	290 dwelling units

In total, the Willow Road Extension/US 101 Interchange project is estimated to indirectly generate between 360 dwelling units (Scenario A development plus Canada development) and 640 dwelling units (Scenario B development plus Canada development). The potential is high for each scenario to significantly impact environmental resources such as water resources, traffic and circulation, biological resources, cultural resources, and agricultural land. Prior to any land use change requests, a land use application must be submitted to the County and approved by the Board of Supervisors. Prior to approval, any such request would require full environmental review.

IX.D. IMPACTS UPON COMMUNITY SERVICE FACILITIES

Any potential future development indirectly caused by the proposed road extension and interchange would generate a need for additional police protection, fire protection, emergency services, solid waste services, schools, recreation areas, and libraries. In addition, future development will cause an increase in wastewater generation, water consumption and energy consumption. However, the project also improves one aspect of community services; the public roadway system.

X. ORGANIZATIONS AND PERSONS CONTACTED

California Department of Fish and Game

California Department of Transportation

California Office of Historic Preservation

California Polytechnic State University, Biological Sciences Department (Dr. David Keil)

California Stormwater Quality Association

County of San Luis Obispo, Air Pollution Control District

County of San Luis Obispo, Department of Agriculture (Michael Isensee)

County of San Luis Obispo, Department of Planning and Building

County of San Luis Obispo, Engineering Department

Environmental Data Resources, Inc. (EDR)

Fehr & Peers Associates, Inc.

NOAA Fisheries (Matt McGoogan)

Rajappan and Meyer

Regional Water Quality Board, Central Coast

RRM Design Group

San Luis Obispo Council of Governments

South County Historical Society, Arroyo Grande, California

U.S. Department of Agriculture, Soil Conservation Service

University of California, Los Angeles

University of California, Santa Barbara

Wildlife Conservation Board

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XII. RESPONSE TO COMMENTS

The CEQA Guidelines, Section 15088, provides that the lead agency (County) evaluate comments on the environmental issues received from agencies and persons that reviewed the Draft SEIR and provide written response to comments as part of the Final SEIR. The following agencies and members of the public have prepared comments on the Draft SEIR:

- County of San Luis Obispo Department of Agriculture
- Nipomo Community Advisory Council
- California Department of Transportation
- San Luis Obispo County Parks
- San Luis Obispo Air Pollution Control District

The letters of comment are given in the above order with the responses following the individual letters. Letters of comment are reproduced in total, and numerical annotation has been added as appropriate to delineate and reference the responses to those comments. The pages of the letters have been re-numbered to conform to the page sequence of this section of the Final SEIR.

In some cases, responses to comments require changes to the text or figures in the Draft SEIR. These changes are noted in the response, and new or revised text or figures are presented as part of the response as well. These Responses to Comments are part of the official record and together with the Draft SEIR, list of Persons, Agencies, and Organizations that commented, and any other information added by the lead agency constitute the Final SEIR.

COUNTY OF SAN LUIS OBISPO

Department of Agriculture/Measurement Standards

2156 SIERRA WAY, SUITE A • SAN LUIS OBISPO, CALIFORNIA 93401-4556
ROBERT F. LILLEY (805) 781-5910
AGRICULTURAL COMMISSIONER/SEALER FAX (805) 781-1035
AgCommSLO@co.slo.ca.us

DATE: **October 25, 2005**

TO: **John Farhar, Environmental Division, County Public Works Dept.**

FROM: **Michael Isensee, Agricultural Resource Specialist, 781-5753** MGI

SUBJECT: **Willow Road Extension Draft Supplemental EIR (Ag Dept 1068)**

This report responds to your request for comments on the Willow Road Extension project and its associated agricultural impacts. These comments are based on the review of the following information: aerial photographs, earlier environmental reports prepared by Douglass Woods and Associates Inc (Nov. 1997), previous comments from our Department dated November 12, 1997 and June 22, 1995, information regarding the Land Conservation Act and Williamson Act contracts, soils data from the Natural Resources Conservation Service, information regarding area crop producers, the current and draft proposed county trails plans, and information about water resources in the area of the proposed roadway expansion. The comments and recommendations are based on policies in the Agriculture and Open Space Element and current departmental policy to conserve agriculture resources and to provide for public health, safety and welfare while mitigating for the negative impacts of development to agriculture.

A. Project Description and Agricultural Setting

The Willow Road Extension project is proposed to connect Willow Road from Pomeroy on the central portion of the Nipomo Mesa to Highway 101 and Thompson Road to the east in the Nipomo Creek Valley. The extension includes the acquisition of 100 feet of right of way for over two miles (to include a two-lane roadway with partial center lane, shoulders/bicycle paths and an area for an equestrian path/trail). An interchange and freeway undercrossing, approximately 0.8 miles of freeway frontage road, a park and ride facility, and stormwater infiltration basins are also proposed as part of the project.

The area contains numerous parcels zoned for agriculture, active agricultural operations, Williamson Act contracted land, and land still in Williamson Act preserve although no longer under contract.

B. Comments on Draft Supplemental Environmental Impact Report

Comments address the following:

1. the proposed equestrian trail
2. information to include or correct in the Final SEIR, and
3. information that would assist in updating the earlier 1999 EIR.

The County Agriculture Department agrees that the construction of the Willow Road Extension will have significant adverse impacts to Agricultural Preserves and Contracts and significant adverse cumulative and growth inducing impacts to the area. The likely result of roadway improvements in this area will be an increase in the property values of Agriculture-zoned land and the creation of additional economic

pressure to develop. As stated in the report, the likely long-term impact is a reduction in agricultural production on surrounding agricultural lands, the nonrenewal of Williamson Act contracts and preserves, the conversion of agricultural properties adjacent to the proposed roadway extension to alternative uses (which will result in the loss of capable soils, including prime soils and farmland of statewide importance), the increased likelihood of incompatibilities with remaining agricultural operations, and increased competition between agricultural operations and urban/suburban development for scarce water resources. These impacts will need to be analyzed if or when development is proposed on adjoining agricultural lands.

1. Equestrian Trail

Thank you for the clarification that a trail is not part of the current proposal and that any future trail development in these areas will undergo separate environmental review and potential impacts to agriculture will be addressed at that time. A-1

2. Information to include in Final SEIR

- The Draft SEIR does not quantify the amount of land proposed for conversion in the development of the Willow Road Extension. Within the Agricultural Resources section, the Final SEIR should identify the acreage of agriculturally productive soils to be impacted by right of way acquisition. All of the soils impacted by this project (except the steeper *Oceano Sand* soils) are either considered to be prime farmland or farmland of statewide importance if irrigation is available. These lands could be considered agriculturally productive subject to water availability. A-2
- The proposed ROW will pass in proximity to a greenhouse/nursery operation (located at 775 Willow and 790 and 800 Live Oak Roads and owned and operated by *Ocean Breeze International*, not *Pismo Flowers*). The Draft SEIR states (in V.H-9) that the proposed ROW will be 800 feet to the north of the facility, but figures appear to show it within much closer proximity of this operation. This should be clarified in the final SEIR. If the right of way is in close proximity, fencing may be an appropriate mechanism to limit trespass and liability issues for the grower. A-3
- The Land Evaluation and Site Assessment (LESA) included as Appendix I appears to inaccurately quantify the project size. The Final SEIR would be improved with ensuring consistency between the quantification of converted soils recommended for inclusion in the text (first bullet, above) of the Agricultural Resources section with the quantification found in Appendix I. Appendix I could also be improved with accompanying text and maps that provides a rationale for both *Water Resources Availability* (worksheet 2) and *Surrounding Agricultural Land and Surrounding Protected Resource Land* (worksheet 3). A-4

3. Updated Information regarding Agriculture

- Parcels in agricultural preserves are not taxed at a lower rate unless these parcels are under contract (IV-3) A-5
- A third nursery grower, Growers Transplanting Inc., is producing just north of and outside the proposed Willow Road alignment, at the northeastern edge of the project area (along Thompson Road) (IV-3; V.H-9). A-6
- The cumulative projects list should be updated and one correction made. Additional projects to be noted include: A-7
    - The Chappell Tract Map, a 6-lot subdivision recently approved to the immediate west of the Craig site

- The Avila Ventures Tract Map, a 7-lot subdivision on the site #23, Anderson, has been recently approved
- The Kaminaka/Nester GPA at 944 Pomeroy, a proposal to rezone 59 acres from AG to REC for recreational fields and 30 residential parcels has been authorized for processing
- The Canada Specific Plan application for APN 091-301-041 has been received by the Planning Department. This proposal is a commercial, industrial and residential project on 274 acres
- The correct location of the Craig/Lucia Mar School District site is north of Willow Road (IV-6 to 8)

A-7

- The DEIR states that local jurisdictions can "establish agricultural preserves consisting of agricultural or *other vacant* lands." Agricultural lands are *not vacant*, as they have an agricultural use (V.H-2).

A-8

- San Luis Obispo County Williamson Act contracts can be either 10 or 20 years in length, not only 10 years (V.H-2).

A-9

- Although considered a class IV soil when irrigated, *Oceano sand* 0-9% slope is one of the county's more capable soils for certain high value crops, including strawberries, avocados, nursery stock and greenhouse plants. The good drainage capability of this soil, coupled with the mild climate and good water quality, makes this a favored soil for greenhouses (>200 acres located on this soil) and outdoor nursery facilities (400 acres). However, it is accurate that in areas with little or no water availability, *Oceano sand* has very limited capability as a productive agricultural soil (IV-3, V.H-4).

A-10

- Both *Oceano Sand* 0-9 percent slope and *Tierra Sandy Loam* are designated by the state as farmland of statewide importance (V.H-4 to 6).

A-11

Feel free to contact me at 781-5753 with any questions.

XII.A. COUNTY OF SAN LUIS OBISPO DEPARTMENT OF AGRICULTURE

Comment A-1: Thank you for the clarification that a trail is not part of the current proposal and that any future trail development in these areas will undergo separate environmental review and potential impacts to agriculture will be addressed at that time.

Response A-1: It is true that the equestrian trail proposed for construction within the Willow Road right-of-way is not being developed as part of the proposed Willow Road Extension/US 101 Interchange project. Most likely, construction of the trail will occur at a later date (after road construction) at which time the County would review any final environmental effects; however, the current SEIR addresses impacts associated with the project right-of-way which includes space for a trail. Therefore, the physical impact of this right-of-way on agricultural and other resources is addressed in this SEIR.

Comment A-2: The Draft SEIR does not quantify the amount of land proposed for conversion in the development of the Willow Road Extension. Within the Agricultural Resources section, the Final SEIR should identify the acreage of agriculturally productive soils to be impacted by right of way acquisition. All of the soils impacted by this project (except the steeper Oceano Sand soils) are either considered to be prime farmland or farmland of statewide importance if irrigation is available. These lands could be considered agriculturally productive subject to water availability.

Response A-2: The specific amount of land proposed for conversion in the development of the Willow Road Extension is provided on Worksheet 1 of the Land Evaluation and Site Assessment (SEIR, Appendix I) and shown on Figure V.H-2 of the SEIR. The proposed project will impact approximately 100 acres of land. As provided in Worksheet 1, Appendix I, the project will impact the following soils: 1) approximately 90 acres of Oceano Sand from 0 to 9 percent slopes; 2) approximately 4 acres of the steeper Oceano Sand soils (9 to 30 percent slopes); 3) approximately 3 acres of the Cropley Clay; and 4) approximately 3 acres of Tierra Sandy Loam. The majority of the project area is on the west side of US 101. A majority of the agricultural land on the west side of US 101 is not currently in agricultural production nor does it have a history of agricultural production. Furthermore, there is currently no water supply being provided to these agricultural lands. Because of the limited water availability and the fact that the land is not currently productive nor has it been productive historically, the impacts to the 90 acres of Oceano Sand are not considered to be significant.

Comment A-3: The proposed ROW will pass in proximity to a greenhouse/nursery operation (located at 775 Willow and 790 and 800 Live Oak Roads and owned and operated by *Ocean Breeze International*, not *Pismo Flowers*). The Draft SEIR states (in V.H-9) that the proposed ROW will be 800 feet to the north of the facility, but figures appear to show it within much closer proximity of this operation. This should be clarified in the final SEIR. If the right of way is in close proximity, fencing may be an appropriate mechanism to limit trespass and liability issues for the grower.

Response A-3: The current SEIR is tiered off the 1999 Willow Road/Highway 101 Interchange FEIR. The 1999 FEIR provided a map with the location of the greenhouse/nursery operation along Willow Road. This map was used to calculate the distance from the nursery to the proposed project. Based on updated maps from the County, it appears that the proposed road will actually pass within 50 feet of the new nursery facilities. In addition, the owners of the nursery operation have changed from Pismo Flowers, Inc. Flowers, Inc to Ocean Breeze International. The sentence on page V.H-9

discussing the owners of the nursery operation and the distance of the nursery operation to the proposed road has been revised as follows:

> The proposed Willow Road extension between Pomeroy Road and Hetrick Avenue will pass approximately 50 feet north of the existing greenhouse operations of Ocean Breeze International (formerly Pismo Flowers).

The proximity of the proposed road extension with respect to the greenhouse operation does not present a significant environmental impact. The Willow Road right-of-way boundary, however, will be fenced in order to provide security for existing commercial businesses that will now be in close proximity to the new roadway. This measure should help prevent trespassing and other similar impacts the nursery may experience as a result of the new road.

Comment A-4: The Land Evaluation and Site Assessment (LESA) included as Appendix I appears to inaccurately quantify the project size. The Final SEIR would be improved with ensuring consistency between the quantification of converted soils recommended for inclusion in the text (first bullet, above) of the Agricultural Resources section with quantification found in Appendix I. Appendix I could also be improved with accompanying text and maps that provides a rationale for both *Water Resources Availability* (worksheet 2) and *Surrounding Agricultural Land and Surrounding Protected Resource Land* (worksheet 3).

Response A-4: The information clarifying the project size as provided in Appendix I, can be found in response to Comment A-1. The response to Comment A-3 provides the rationale for LESA Worksheet 2, *Water Resources Availability.* The information on water resource availability does not lend itself to a map. LESA worksheet 3, *Surrounding Agricultural Land and Surrounding Protected Resource Land*, is a numerical calculation of the project's "Zone of Influence". The "Zone of Influence" is all lands within ¼ mile (in all directions) of the project site. The LESA model requires that the amount of acres in agriculture and the acres of Protected Resource Land be calculated within this ¼ mile Zone of Influence. These figures were determined from maps created through Geographic Information System software but were not included in the SEIR because all that the LESA model requires is for the acreages to be provided in a worksheet. A map would be an informative addition and will be strongly considered for future agricultural analyses.

Comment A-5: Parcels in agricultural preserves are not taxed at a lower rate unless these parcels are under contract (IV-3).

Response A-5: The information addressing taxing of agricultural preserves is consistent with the information provided on pages IV-3 and V.H-2 of the SEIR. Regardless, placing these land in a higher tax bracket will not change the conclusions reached in the LESA model.

Comment A-6: A third nursery grower, Growers Transplanting Inc, is producing just north of and outside the proposed Willow Road alignment, at the northeastern edge of the project area (along Thompson Road) (IV-3; V.H-9).

Response A-6: Regarding an additional grower and nursery operator in the project vicinity, this business would not be directly affected by the proposed road extension and interchange.

Comment A-7: The cumulative projects list should be updated and one correction made. Additional projects to be noted include:

- The Chappell Tract Map, a 6-lot subdivision recently approved to the immediate west of the Craig site.
- The Avila Ventures Tract Map, a 7-lot subdivision on the site #23, Anderson, has been recently approved.
- The Kaminaka/Nester GPA at 944 Pomeroy, a proposal to rezone 59 acres from AG to REC for recreational fields and 30 residential parcels has been authorized for processing.
- The Canada Specific Plan application for APN 091-301-041 has been received by the Planning Department. This proposal is a commercial, industrial and residential project on 274 acres.
- The correct location of the Craig/Lucia Mar School District site is north of Willow Road (IV-6 to 8).

Response A-7: The cumulative projects list was based on the most recent list of projects from the County of San Luis Obispo at the time of the analysis for the Draft SEIR. However, Figure IV-1 has been updated to correct the location of the Craig/Lucia Mar School District site. The updated Figure IV-1 is included below.

Comment A-8: The DEIR states that local jurisdictions can "establish agricultural preserves consisting of agricultural or other vacant lands." Agricultural lands are not vacant, as they have an agricultural use (V.H-2).

Response A-8: The term "vacant" was not intended to refer to agricultural lands. The sentence on page V.H-2 will be revised to clarify this as follows:

> "This legislation allows local jurisdictions (cities or counties) to establish agricultural preserves consisting of existing agricultural or vacant lands."

Comment A-9: San Luis Obispo County Williamson Act contracts can be either 10 or 20 years in length, not only 10 years (V.H-2).

Response A-9: The text on page V.H-2 is revised herewith as follows:

> "The vehicle for these land agreements is a rolling term 10- <u>or 20-</u> year contract, which means that the contract is automatically extended (renewed) each year under the initial terms of the contract unless either party files a "notice of nonrenewal".

Comment A-10: Although considered a class IV soil when irrigated, *Oceano sand* 0-9 slope is one of the county's more capable soils for certain high value crops, including strawberries, avocados, nursery stock and greenhouse plants. The good drainage capability of this soil, coupled with mild climate and good water quality, makes this a favored soil for greenhouses (>200 acres located on this soil) and outdoor nursery facilities (400 acres). However, it is accurate that in areas with little or no water availability, *Oceano sand* has very limited capability as a productive agricultural soil (IV-3, V.H-4).

Response A-10: The text on page V.H-4 describing Oceano Sand 0 to 9 percent slopes has been amended as follows to include the above information.

Oceano Sand. 0 to 9 percent slopes (soil category 184 on Figure V.H-2). This soils association involves "old, stabilized sand dunes" which are formed deposits of wind blown sand. Permeability (i.e., drainage ability) of Oceano soil is rapid and the ability to retain moisture is low. This low water holding capacity creates a high susceptibility to soil blowing and drought. These soils are primarily used for rangeland, urban development, and limited crops (lemons, avocados, strawberries, and Christmas trees) and supports groves of bluegum eucalyptus. This soil provides excellent base material for roadways and structures. This soil association has a Capability Class of IV if irrigated and VI if non-irrigated. Although considered a class IV soil when irrigated, *Oceano sand* 0-9 slope is one of the county's more capable soils for certain high value crops, including strawberries, avocados, nursery stock and greenhouse plants. The good drainage capability of this soil, coupled with mild climate and good water quality, makes this a favored soil for greenhouses (>200 acres located on this soil) and outdoor nursery facilities (400 acres). However, in areas with little or no water availability, *Oceano sand* has very limited capability as a productive agricultural soil.

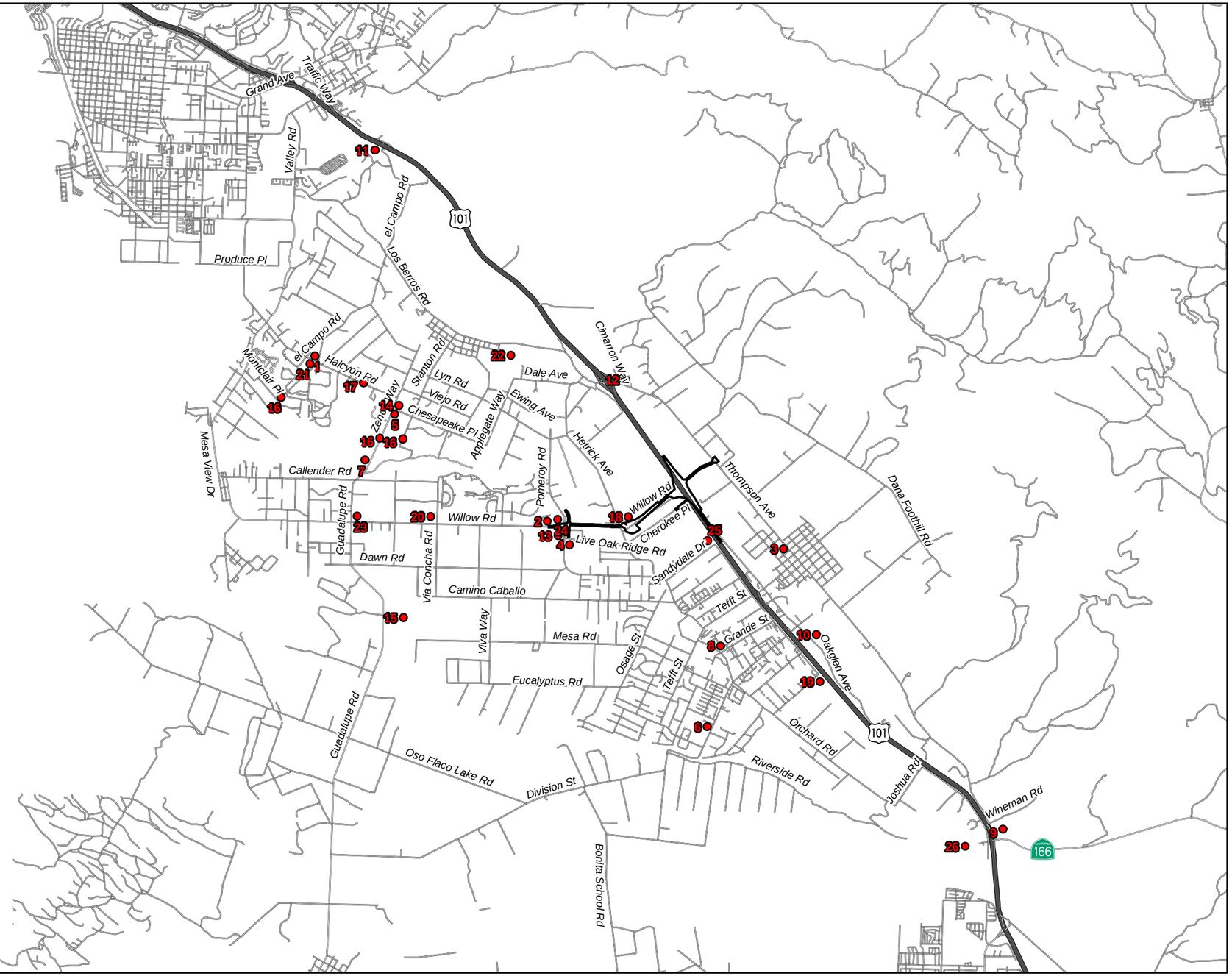
Comment A-11: Both *Oceano Sand* 0-9 percent slope and *Tierra Sandy Loam* are designated by the state as farmland of statewide importance (V.H-4 to 6).

Response A-11: The text on page V.H-4 and V.H-6 describing Oceano Sand 0 to 9 percent and Tierra Sandy Loam have been revised as follows to include the fact that these soils are designated by the state as farmland of statewide importance.

Oceano Sand. 0 to 9 percent slopes (soil category 184 on Figure V.H-2). This soils association involves "old, stabilized sand dunes" which are formed deposits of wind blown sand. Permeability (i.e., drainage ability) of Oceano soil is rapid and the ability to retain moisture is low. This low water holding capacity creates a high susceptibility to soil blowing and drought. These soils are primarily used for rangeland, urban development, and limited crops (lemons, avocados, strawberries, and Christmas trees) and supports groves of bluegum eucalyptus. This soil provides excellent base material for roadways and structures. This soil association has a Capability Class of IV if irrigated and VI if non-irrigated. Although considered a class IV soil when irrigated, *Oceano sand* 0-9 slope is one of the county's more capable soils for certain high value crops, including strawberries, avocados, nursery stock and greenhouse plants. The good drainage capability of this soil, coupled with mild climate and good water quality, makes this a favored soil for greenhouses (>200 acres located on this soil) and outdoor nursery facilities (400 acres). However, in areas with little or no water availability, *Oceano sand* has very limited capability as a productive agricultural soil. This soil type is designated by the state as farmland of statewide importance.

Tierra Sandy Loam. 2 to 9 percent slopes (soil category 216 on Figure V.H-2). This soil association is formed from old alluvial soils weathered from sedimentary rocks. Soil permeability is very slow, but the available water capacity is low to moderate. It also has a moderate soil blowing hazard. Most of the soils in the area are used for rangeland or for hay crops and small grains. Common crops are grain barley and oat hay. Roadways in these soils require special design due to soil expansion and shrinkage, low soil strength, and slow permeability. This soil association has a Capability Class of III in both the irrigated and non-irrigated condition. This soil type is designated by the state as farmland of statewide importance.

ID	Type	Name	Location
1	Private	Cypress Ridge Tract Map & Development Plan	Halcyon Road & El Campo Road
2	Private	Black Lake Specific Plan Amendment & Tract Map	Willow Road & Pomeroy Road
3	Private	Meier/Herreck Tract Map	Old Nipomo Road, Thompson Road & Chestnut Road
4	Private	Teter Tract Map	Pomeroy Road & Live Oak Ridge Road
5	Private	Greenhart Farms Development Plan	Zenon Road, south of Cheasepeake Place
6	Private	Murphy Tract Map	Division Street & Tyrus Court
7	Private	Katzenstein Parcel Map	Zenon Road & Black Lake Canyon
8	Private	Armstrong Tract Map	Orchard Road & Grande Street
9	Private	Sheilds & Shields Tract Map	US 101 & Hwy 166
10	Private	Lampe Tract	South Oakglen Avenue
11	Private	Busick Tract Map	El Campo Road & US 101
12	Private	Sejera/Thompson Tract Map	Thompson Avenue & US 101
13	Private	Belsher & Becker Tract Map	Pomeroy Road near Willow Road
14	Private	Ball Seed Development Plan	Zenon Road & Cheasapeake Place
15	Private	The Woodlands Specific Plan	East of SR 1, one mile south of Willow Road
16	Public	No. Mesa Assessment District	Portions of El Campo Road, Zenon Road, & Stanton Road
17	Public	Widen portion of Halcyon Road	Halcyon Road
18	Private	Nipomo Oaks/Melschau	Willow Road & Hetrick Avenue
19	Private	Brand	South Frontage Road & Southland Avenue
20	Private	Craig/Lucia Mar School District	Willow Road & Via Concha
21	Private	Cypress Ridge	El Campo Road & Halycon Road
22	Private	SLO County-Summit Station & Robertson et. al.	Pomeroy Road/Frontage Road/Los Berros Road
23	Private	Anderson	Northeast corner of Guadelupe Road & Willow Road
24	Private	Vellagio	Near Willow Road & Pomeroy Road
25	Private	Robinson Weaver	Northwest of the corner of Sandydale Drive and N. Frontage Road, just west of US 101
26	Private	Biorn LUO Amendment	Immediately west of the Highway 166/US 101 interchange



LSA

0 1 2

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SOURCE: Census 2000 Tiger/Line Data, County of San Luis Obispo Planning and Building Department.

CORPSL03; I:\RAJ334\GIS\Cumulative.mxd (11/1/05)

Revised FIGURE IV-1

Willow Road Extension/U.S. 101 Interchange Project

Cumulative Projects

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Nipomo Community Advisory Council
P. O. Box 1165
Nipomo, California 93444

September 15, 2005

Mr. John McKenzie, EIR Project Manager
SLO County, Planning and Building
County Government Center, Room 310
San Luis Obispo, California 93408-2040

RE: Response to Willow Road, Nipomo Environmental Impact Report

Dear Mr. McKenzie:

Following a presentation and discussion at the September 12, 2005 meeting of the Nipomo Community Advisory Council, the following motion was presented and approved:

Motion: The NCAC would like the following comments submitted to John McKenzie, Project Manager by our Chair

Recommendations:

1. Add additional mitigations to minimize oak tree loss such as:
Mitigation F-15
In addition to oak tree replacement, primary effort should be to avoid oak tree disturbance in the first place. Either eliminate or move the park-and-ride facility to an area where oak tree removal and damage will not occur. In the areas west of 101 between the freeway and the on/off ramps and new frontage road, eliminate or minimize development or soil disturbance. B-1

2. The beneficial Class IV impacts to Air Quality, Socio-Economics, and Traffic and Circulation can be enhanced by project rescheduling to get traffic onto the 101 freeway at least a year sooner. If the interchange completion is scheduled before the frontage road construction, through traffic from Willow to Highway 101 will be a reality sooner. Scheduling early frontage road completion only directs traffic to the Tefft/101 interchange where the biggest problem currently exists. Directing traffic off the mesa to the Willow/101 interchange opens a new outlet to the traffic congestion.
In addition, an earlier extension of Willow to Thompson will allow Nipomo High School traffic an opportunity to avoid the Tefft congestion. B-2

Thank you for your consideration of this matter.

Respectfully Submitted,

Susan M. Hermreck
Nipomo Community Advisory Council Chair

XII.B. NIPOMO COMMUNITY ADVISORY COUNCIL

Comment B-1: Add additional mitigations to minimize oak tree loss such as: Mitigation F-15 In addition to oak tree replacement, primary effort should be to avoid oak tree disturbance in the first place. Either eliminate or move the park-and-ride facility to an area where oak tree removal and damage will not occur. In the areas west of 101 between the freeway and the on/off ramps and new frontage road, eliminate or minimize development or soil disturbance.

Response B-1: A highway interchange is an ideal spot for a park-and-ride facility and an express bus stop. In fact, the San Luis Obispo Council of Governments (SLOCOG) and Caltrans has policies which promote park-and-ride locations between an on-ramp and a frontage road. Park-and-ride facilities and bus stops facilitate ridesharing, which further reduce traffic congestion and air pollution. For these reasons, it is not preferable to completely eliminate the proposed facility. With respect to the proposed location of the park-and-ride facility, the California Department of Transportation (Caltrans) has specific spacing requirements for intersections and highway interchange ramps that dictated the placement of the frontage road intersection. The location of the frontage road with respect to the location of the interchange ramp left a small area that was well-suited for a park-and-ride facility. Without acquiring additional right-of-way, there is no other area near the proposed interchange that is within the existing project boundaries to provide for a park and ride lot.

Comment B-2: The beneficial Class IV impacts to Air Quality, Socio-Economics, and Traffic and Circulation can be enhanced by project rescheduling to get traffic onto the 101 freeway at least a year sooner. If the interchange completion is scheduled before the frontage road construction, through traffic from Willow to Highway 101 will be a reality sooner. Scheduling early frontage road completion only directs traffic to the Tefft/101 interchange where the biggest problem currently exists. Directing traffic off the mesa to the Willow/101 interchange opens a new outlet to the traffic congestion. In addition, an earlier extension of Willow to Thompson will allow Nipomo High School traffic an opportunity to avoid the Tefft congestion.

Response B-2: It is possible that traffic operations might be improved by completing the Willow Road/US 101 interchange and the Willow Road to Thompson extension before completing the frontage road to Tefft Street. However, the timing of improvements to Willow Road and the Willow Road/US 101 Interchange is being dictated by funding availability (local and federal) and the timing of the environmental reviews under both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Funding for the section of Willow Road between Pomeroy and US 101 will likely be available years before funding is available for the US 101 Interchange and the portion of Willow Road that will extend east from US 101 to Thompson Rd. It is important to note that the sources of funding for the road improvements are not the same, where money dedicated for Willow Road improvements cannot be used for the US 101 Interchange and vice versa (federal vs. county sources). In addition, the environmental review for the Willow Road extension and interchange as required under CEQA will be completed before the environmental review for the interchange under NEPA. Each environmental document needs to be approved by the County Board of Supervisors before that piece of the proposed project moves forward. For these reasons, the proposed interchange and extension to Thompson Road will likely occur after the extension west of US 101 and the frontage road connection.

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
50 HIGUERA STREET
SAN LUIS OBISPO, CA 93401-5415
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September 16, 2005

SLO – 101 PM 4.85

SCH # 1995051065

John Farhar
San Luis Obispo County
Department of Planning & Building
County Government Center
San Luis Obispo, CA 93408

Dear Mr. Farhar

RE: Willow Road Extension/U.S. 101 Interchange – Notice of Availability of Supplemental Draft Environmental Impact Report (ED02-400; WBS300129)

The California Department of Transportation (Department) has reviewed the above referenced project and as a result the following comments were generated.

1. (Ref. Page V.B-6, Table V.B-2, *Peak Hour LOS for Existing Project Area Ramp Junctures and Intersections*). Table V.B-2 incorrectly states that the Level Of Service "LOS" for the north bound on-ramp from Teft Street onto northbound U.S 101 is operating at LOS "C", and the LOS for the northbound movement on South Frontage Road is LOS "C" as well. According to the July 2004, Omni-Means traffic analysis for the County's 5-Year Update of the South County Circulation Plan, The Levels of Service for those two intersections should be LOS "E" and LOS "F" respectively. Consistent and accurate disclosure of existing traffic conditions at the 101/Teft Street I/C is of paramount importance, please revise the existing traffic conditions table using the most current analysis and data, this being the Omni-Means Update. C-1

2. (Ref. Page V.B-8, Table V.B-3, *Average Delay/LOS for Future No Project Condition and for Future With Project Condition*) The LOS conditions depicted in the "2030 No Project" column need to be revised. Existing traffic conditions at the 101/Teft Street north bound on-ramps intersection is already at LOS "E". Also, the a.m. peak hour for 101/Teft Street on-ramp traffic is the heaviest congestion time for peak hour C-2

"Caltrans improves mobility across California"

Mr. Farhar
September 16, 2005
Page 2

traffic, not the p.m. peak hour. Please revise the year-2030 future condition LOS scenario and depict the a.m. peak hour as the heaviest traffic scenario.

Thank you for the opportunity to comment on the Willow Road Extension Supplemental EIR NOC. If you have any questions, please contact me at 549-3683.

Sincerely,

James Kilmer
District 5
Development Review/CEQA Coordination

c: File, D. Murray, R. Barnes, T. Houston, L. Bonner, D. Ramey – SLO County Public Works

"Caltrans improves mobility across California"

XII.C. CALIFORNIA DEPARTMENT OF TRANSPORTATION

Comment C-1: (Ref. Page V.B-6, Table V.B-2, Peak Hour LOS for Existing Project Area Ramp Junctures and Intersections). Table V.B-2 incorrectly states that the Level of Service "LOS" for the north bound on-ramp from Teft [sic] Street onto northbound U.S. 101 is operating at LOS "C", and the LOS for the northbound movement on South Frontage Road is LOS "C" as well. According to the July 2004, Omni-Means traffic analysis for the County's 5-Year Update of the South County Circulation Plan, the Levels of Service for those two intersections should be LOS "E" and LOS 'F" respectively. Consistent and accurate disclosure of existing traffic conditions at the 101/Teft [sic] Street I/C is of paramount importance, please revise the existing traffic conditions table using the most current analysis and data, this being the Omni-Means Update.

Response C-1: In conducting the traffic analysis and establishing the Levels of Service for the project area, the Draft SEIR utilized the *Final Traffic Operations Report, US 101/Willow Road Interchange Project*, prepared by Fehr and Peers Associates, Inc (December 2004). This was the most up to date traffic data available at the time the traffic analysis was conducted in late 2003/early 2004. We appreciate the fact that information is constantly being updated and that new traffic analyses in the South County area show that traffic conditions in the project area are worse than those depicted in the Draft SEIR. While the new information is informative, it does not change the conclusions of the draft SEIR that the Willow Road Extension and US 101/Willow Road Interchange are necessary to relieve congestion and deteriorating traffic conditions in the South County area; the new traffic information only further underscores the need for the proposed project. Therefore, Table V.B-2 of the Draft SEIR will not be revised.

Comment C-2: (Ref. Page V.B-8, Table V.B-3, *Average Delay/LOS for Future No Project Condition and for Future With Project Condition)*. The LOS conditions depicted in the "2030 No Project" column needs to be revised. Existing traffic conditions at the 101/Teft [sic] Street north bound on-ramps intersection is already at LOS "E". Also, the a.m. peak hour for 101/Teft [sic] Street on-ramp traffic is the heaviest congestion time for peak hour traffic, not the p.m. peak hour. Please revise the year-2030 future conditions LOS scenario and depict that the a.m. peak hour as the heaviest traffic scenario.

Response C-2: See Response C-1 above.

SAN LUIS OBISPO
COUNTY PARKS

MEMO

TO: John Farhar, Public Works

FROM: Jan Di Leo, Parks

DATE: September 1, 2005

RE: Willow Road Extension (ED02-400; WBS300129) SCH1995051065

Thank you for sending the Draft EIR to Parks for review. We have reviewed the EIR for the Willow Road Extension.

On page III-5 the trail along Willow Road is noted as part of the project description. In general, this reference is fine. One comment, typically the A-1 (x) detached standard provides a ten foot wide trail (versus the eight feet noted in the EIR). Parks could accommodate an eight foot wide trail versus the typical ten foot width if the more narrow width is necessary to mitigate impacts to sensitive habitat or agricultural lands. D-1

Again, thank you for the opportunity to comment. If you have questions or concerns please contact me at 781-4089.

1087 Santa Rosa Street, San Luis Obispo, CA 93408 Tel: (805) 781-5200 Fax: 781-1102
Web: www.slocountyparks.com

XII.D. SAN LUIS OBISPO COUNTY PARKS

Comment D-1: On page III-5 the trail along Willow Road is noted as part of the project description. In general, this reference is fine. One comment, typically the A-1 (x) detached standard provides a ten foot wide trail (versus the eight feet noted in the EIR). Parks could accommodate an eight foot wide trail versus the typical ten foot width if the more narrow width is necessary to mitigate impacts to sensitive habitat or agricultural lands.

Response D-1: The reference to an 8-foot easement on page III-5 of the EIR has been revised herewith to a 10-foot easement. The sentence now reads as follows:

> "The Willow Road extension will be a two-lane roadway (one lane in each direction) within a 100-foot right-of-way to accommodate a 40-foot-wide roadway with two 12-foot travel lanes, a 14-foot-wide center turn (auxiliary) lane in selected areas, two 8-foot shoulders, and an 10-foot area set aside for a future equestrian path."

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN LUIS OBISPO

DATE: September 19, 2005

TO: John Farhar, Project Environmental Resource Specialist
San Luis Obispo County Department of Planning and Building

FROM: Melissa Guise, Air Quality Specialist
San Luis Obispo County Air Pollution Control District

SUBJECT: Response to Supplemental Draft Environmental Impact Report (SEIR) Regarding the Willow Road Extension / US 101 Interchange. (Agency Project # SCH1995051065)

Thank you for including the APCD in the environmental review process. We have completed our review of the proposed project located at Willow Road in Nipomo. The SEIR addresses the environmental impacts associated with the preferred alternative (Alignment 2) which includes the extension of Willow Road to the east of it's existing terminus, approximately 1000 feet west of Pomeroy Road to Thompson Ave.; construction of a frontage road between Willow Road and Sandydale Drive; construction of a new US 101/Willow Road interchange and related cross street with drainage improvements. The following are APCD comments that are pertinent to this project.

SPECIFIC COMMENTS

Section II, SEIR Summary, Page II-16 and Page V.D-5

Reference is made to the San Luis Obispo Council of Governments (SLOCOG) Clean Air Plan (CAP) on page II-16 and that SLOCOG is responsible for formulating and implementing the Clean Air Plan for South Central Coast Air Basin (SCCAB). It should be noted that the CAP for San Luis Obispo County is published by the APCD, not the Council of Governments. The APCD is also responsible for implementation of the CAP. E-1

Section II, SEIR Summary, Page II-55

Should contaminated soil be encountered during construction activities, the APCD must be notified immediately. Any storage pile of contaminated material must be covered at all times except when soil is added or removed. The following measures shall be implemented: E-2

- Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal;
- Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other TPH –non-permeable barrier such as plastic tarp. No headspace shall be allowed where vapors could accumulate;
- Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted;
- During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance; and,
- Clean soil must be segregated from contaminated soil.

For further information, contact Karen Brooks of our Enforcement Division at 781-5912.

3433 Roberto Court • San Luis Obispo, CA 93401 • 805-781-5912 • FAX: 805-781-1002
info@slocleanair.org ❖ www.slocleanair.org

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Section III, Project Description, Page III-8
In addition to the required permits and approvals listed on page III-8, it should be noted that Air Pollution Control District approvals and permits maybe required for this project. Please refer to page 5 of this letter for specific permitting requirements related to this project. E-3

Section V.D, Air Quality, Page V.D-7
Table V.D.2 on page V.D.-7 presents air quality data for the area. This data shown is for years 1998 through 2002. This table should be updated to include more recent data. E-4

Section V.D, Air Quality, Page V.D-8
On page V.D-8 the statement is made that projects in the South Central Coast Air Basin with construction-related emission that exceed any of the emission threshold listed are considered significant by the APCD. It should be noted that the thresholds listed in the SEIR for both construction and operational phase emissions are only relevant to San Luis Obispo County. Other air districts in the SCCAB have different thresholds. E-5

Section V.D, Air Quality, Page V.D-9 through V.D-10
Daily Construction Equipment Exhaust Emissions are presented in Table V.D.5. Based on the data presented in this table it does not appear that any haul trips for the asphalt, cut/fill material, road base, or other supplies were taken into consideration. These emissions must also be quantified to assess the total emissions from the construction phase of the project. This table should be updated to include these emissions. This data will be necessary to determine the appropriate mitigation measures and the number of diesel particulate filters or oxidation catalysts required for the project. E-6

Section V.D, Air Quality, Page V.D -10
As indicated in on page V.D-10 the project site is located in a candidate area for Naturally Occurring Asbestos (NOA), which has been identified as a toxic air contaminant by the California Air Resources Board (ARB). Under the ARB Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any grading activities at the site, the project proponent shall ensure that a geologic evaluation is conducted to determine if NOA is present within the area that will be disturbed. **If NOA is not present, an exemption request must be filed with the District (see Attachment 1). If NOA is found at the site the applicant must comply with all requirements outlined in the Asbestos ATCM.** This may include development of an Asbestos Dust Mitigation Plan and an Asbestos Health and Safety Program for approval by the APCD. Please refer to the APCD web page at *http://www.slocleanair.org/business/asbestos.asp* for more information or contact Tim Fuhs of our Enforcement Division at 781-5912. E-7

Section V.D, Air Quality, Page V.D -11
Under the Carbon Monoxide Hot Spots analysis the statement is made that the primary mobile source pollutant of local concern is CO. This is not a correct statement. Mobile E-8

Environmental Impact Report for Willow Road Extension / US 101 Interchange
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sources generate NOx, ROG, and PM, all of which are primary pollutants of concern in the county. E-8

Section V.D, Air Quality, Page V.D -12

On page V.D-12, the statement is made that "because the CAP is based on projects from local General Plans, projects consistent with the local General Plan are considered consistent with the CAP". This is not true. First, the population projections in the CAP are based on consensus information used by SLO County Planning Department and San Luis Obispo Council of Governments; local evaluation of historical growth rates; national, state, and local economic forecasts. Secondly, just because a project is consistent with a general plan does not necessarily mean it is consistent with the CAP. The CEQA Air Quality Handbook outlines on page 2-3 the three primary parameters that are used to assess whether a project is consistent with the CAP. Those being the following: E-9

- Are the population projects used in the plan or project equal to or less than those used in the most recent CAP for the same area?
- Is the rate of increase in vehicle trips and miles traveled less than or equal to the rate of population growth for the same area?
- Have all applicable land use, transportation control measures and strategies for the CAP been included in the plan or project to the maximum extent feasible?

If the answer to ALL the above questions are yes, then the proposed project or plan is considered to be consistent with the CAP. The argument and data presented in Table V.D-7 do not demonstrate consistency with the CAP. CO concentrations are not used to determine consistency with the CAP.

Section V.D, Air Quality, Page V.D -15

Pursuant to APCD Rule 420, relates to cutback asphalt paving material. All asphalt material used should be consistent with Rule 420 and the contractor should maintain records in accordance with this rule. E-10

Section V.D, Air Quality, Page V.D -15

In addition to Naturally Occurring Asbestos, a provision should be included in the project for demolition activities if applicable. The Site Plan provided with the SEIR placed the proposed project within close proximity of existing structures but does not specify whether demolition of existing structures will take place. Demolition activities can have potential negative air quality impacts, including issues surrounding proper handling, demolition, and disposal of asbestos containing material (ACM). Asbestos containing materials could be encountered during demolition or remodeling of existing buildings. Asbestos can also be found in utility pipes/pipelines (transite pipes or insulation on pipes). **If utility pipelines are scheduled for removal or relocation; or building(s) are removed or renovated this project may be subject to various regulatory jurisdictions, including the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M - asbestos NESHAP).** E-11

Environmental Impact Report for Willow Road Extension / US 101 Interchange
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These requirements include but are not limited to: 1) notification requirements to the District, 2) asbestos survey conducted by a Certified Asbestos Inspector, and, 3) applicable removal and disposal requirements of identified ACM. Please contact Tim Fuhs of the Enforcement Division at 781-5912 for further information. E-11

Section V.D, Air Quality, Page V.D -16
Mitigation Measure D-5 discusses diesel particulate filter or diesel oxidation catalysts (filters/catalysts). As indicated above, the total emissions for the project must be quantified in order to determine the exact number of diesel particulate filter or diesel oxidation catalyst required. The contractor shall work with the APCD in determining the exact number of filters/catalysts required and the appropriate equipment on which the filters/catalysts will be used. In general the filters/catalysts are installed on the highest emitting pieces of equipment. **The filter/catalysts must be approved by the APCD and installed prior to the issuance of grading permits and start of any construction activities. To avoid any construction delays the contractor should contact the APCD at least 3 months prior to the start of construction to coordinate the implementation of this air quality mitigation measure.** E-12

Section V.D, Air Quality, Page V.D -16
Mitigation Measure D-6, requires the contractor to prepare a Construction Activity Management Plan designed to minimize the amount of large construction equipment operating during any given time period. **The plan should be submitted to the District for review and approval prior to the issuance of grading permits and the start of construction.** The plans should include but not be limited to the following elements:

- Schedule construction truck trips during non-peak hours to reduce peak hour emissions;
- Limit the length of the construction work-day period, if necessary; and,
- Phase construction activities, if appropriate.

E-13

Section V.D, Air Quality, Page V.D -16 and V.D. -17
The EIR states that "…it is assumed that up to three acres of land would be under construction or exposed at any point in time…", this seems unlikely given the scale of the proposed project development. The project calls for the construction of 2.5 miles of main roadway with a 100 ft right-of-way for a total area of 30.2 acres, a 0.8 mile frontage road with a 60 foot right of way, and two infiltration basins (exact dimensions not given). Given the magnitude of the project, the APCD estimates that it is likely, at times, throughout the course of the construction project areas greater than 4 acres may be exposed and/or under construction during the course of the project. Construction activities can also generate fugitive dust, which could be a nuisance to local residents and businesses in close proximity to the proposed construction site. Dust control measures are listed as Mitigation Measures D-10. APCD staff agrees with the mitigation measures listed in the SEIR. If properly implemented, these measures should adequately control fugitive dust. E-14

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Section V.D, Air Quality, Page V.D -16
In addition to the verbiage included in Mitigation Measure D-14, District staff recommends the following requirement be added:

- All on and off-road diesel equipment shall not be allowed to idle for more than 5 minutes. In addition, to include this condition in the construction plan specifications, signs shall be posted in the designated queuing areas to remind drivers and operators of the 5 minute idling limit.

E-15

Section V.D, Air Quality, Page V.D -18
Under Mitigation Measure D-16, the use of equipment that have Caterpillar pre-chamber diesel engines is listed as recommended but not mandatory. District staff no longer recommends the use of Caterpillar pre-chamber diesel engines. This condition can be removed from the SEIR.

E-16

Section V.D, Air Quality, Page V.D -18
The following mitigation measures should be added to the SEIR. Portable equipment, 50 horsepower (hp) or greater, used during construction activities may require California statewide portable equipment registration (issued by the California Air Resources Board) or an APCD permit. The following list is provided as a guide to equipment and operations that may have permitting requirements, but should not be viewed as exclusive. For a more detailed listing, refer to page A-5 in the District's CEQA Handbook.

- Power screens, conveyors, diesel engines, and/or crushers;
- Portable generators (50 hp or greater);
- IC engines;
- Rock and pavement crushing;
- Tub grinders; and
- Trommel screens.

To minimize potential delays, prior to the start of the project, please contact David Dixon of the District's Engineering Division at (805) 781-5912 for specific information regarding permitting requirements.

E-17

Section V.D, Air Quality, Page V.D -18
The following mitigation measures should be added to the SEIR. Effective February 25, 2000, the APCD prohibited developmental burning of vegetative material within San Luis Obispo County. Under certain circumstances where no technically feasible alternatives are available, limited developmental burning under restrictions may be allowed. This requires prior application, payment of fee based on the size of the project, APCD approval, and issuance of a burn permit by the APCD and the local fire department authority. The applicant is required to furnish the APCD with the study of technical feasibility (which includes costs and other constraints) at the time of application. If you have any questions regarding these requirements, contact Karen Brooks of our Enforcement Division at 781-5912.

E-18

Environmental Impact Report for Willow Road Extension / US 101 Interchange
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Again, thank you for the opportunity to comment on this proposal. If you have any questions or comments, feel free to contact me at 781-4667.

MAG /sll

cc: Tim Fuhs, Enforcement Division, APCD
David Dixon, Engineering Division, APCD
Karen Brooks, Enforcement Division, APCD

Attachments:
1. Naturally Occurring Asbestos Construction & Grading Project - Exemption Request Form.

XII.E. SAN LUIS OBISPO AIR POLLUTION CONTROL DISTRICT

Comment E-1: *Section I, SEIR Summary, Page II-16 and Page V.D-5*
Reference is made to the San Luis Obispo Council of Governments (SLOCOG) Clean Air Plan (CAP) on page II-16 and that SLOCOG is responsible for formulating and implementing the Clean Air Plan for South Central Coast Air Basin (SCCAB). It should be noted that the CAP for San Luis Obispo County is published by the APCD, not the Council of Governments. The APCD is also responsible for implementation of the CAP.

Response E-1: The paragraph on page II-16 has been revised to read as follows:

> "The proposed project will not significantly contribute to or cause deterioration of existing air quality. Therefore, the proposed project is consistent with the APCD's Clean Air Plan. Hence, no mitigation measures are required for the long-term operation of the project in order to meet APCD's Clean Air Plan."

The sentence on page V.D-5 has been revised to read as follows:

> "The APCD is responsible for formulating and implementing the Clean Air Plan (CAP)."

Comment E-2: *Section II, SEIR Summary, Page II-55*
Should contaminated soil be encountered during construction activities, the APCD must be notified immediately. Any storage pile of contaminated material must be covered at all times except when soil is added or removed. The following measures shall be implemented:

- Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal;
- Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other TPH – non-permeable barrier such as plastic tarp. No headspace shall be allowed where vapors could accumulate;
- Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted;
- During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance; and,
- Clean soil must be segregated from contaminated soil.

For further information, contact Karen Brooks of our Enforcement Division at 781-5912.

Response E-2: Mitigation Measure M-1 requires a Health and Safety Plan be prepared if contaminated soil is encountered during construction activities. Should contaminated soil be encountered during construction activities, Mitigation Measure M-1 has been revised as follows to include the specific measures requested by the APCD (as applicable):

M-1, Soil Contamination. To confirm whether lead contaminants are present in surface soils adjacent to US 101, soil sampling and testing shall be conducted by a County-approved soil scientist prior to any grading or construction activities. Should elevated levels of lead or petroleum contaminants be found, a Health and Safety Plan shall be prepared by a qualified individual approved by the County. Work practices and worker health and safety must conform to California Code of Regulations, Title 8, Section 1532.1 (Construction Safety Orders). The compliance program required under this section, which would include the health and safety plan, must be prepared by an industrial hygienist certified by the American Board of Industrial Hygiene. A qualified person who is capable of taking corrective action must monitor the compliance program/Health and Safety Plan. The following measures shall be implemented as part of the Health and Safety Plan should contaminated soil be encountered during construction activities:

- Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal;
- Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other TPH – non-permeable barrier such as plastic tarp. No headspace shall be allowed where vapors could accumulate;
- Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted;
- During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance; and,
- Clean soil must be segregated from contaminated soil.

Comment E-3: *Section III, Project Description, page III-8*
In addition to the required permits and approvals listed on page III-8, it should be noted that Air Pollution Control District approvals and permits maybe required for this project. Please refer to page 5 of this letter for specific requirements related to this project.

Response E-3: Section III.E REQUIRED PERMITS AND APPROVALS has been amended as follows to include the potential need for APCD permits:

- A Section 404 permit under the federal Clean Water Act from the U.S. Army Corps of Engineers;
- A Public Resources Code Section 1602 Streambed Alteration Agreement from the State of California, Department of Fish and Game;
- A Section 401 water quality certification from the Regional Water Quality Control Board;
- A National Pollution Discharge Elimination System (NPDES) permit to comply with Section 401 of the federal Clean Water Act from the State Water Quality Control Board;
- An Encroachment Permit from the State of California, Department of Water Resources (DWR) for construction of the project across the DWR Coastal Aqueduct Pipeline running along the east side of Nipomo Creek;
- An Encroachment Permit from the State of California, Department of Transportation for construction of the US 101/Willow Road interchange; and
- An Air Pollution Control District Permit for portable equipment 50 horsepower or greater;

Comment E-4: *Section V.D, Air Quality, Page V.D-7*
Table V.D.2 on page V.D-7 presents air quality data for the area. This data shown is for years 1998 through 2002. This table should be updated to include more recent data.
Response E-4: The data provided in the Draft SEIR was the most recent data available when the Air Quality analysis was being conducted. At this point in time, there is more recent air quality data for the area. Therefore, Table V.D.2 has been updated to include data for the years 2000 through 2004. The updated Table V.D.2 is included below.

Table V.D-2: Ambient Air Quality at the Nipomo Regional Park Air Monitoring Station[2]

Pollutant	Standard	2004	2003	2002	2001	2000
Carbon Monoxide[1]						
Max 1-hr concentration (ppm)		2.4	2.3	3.1	3.5	4.0
No. days exceeded: State	> 20 ppm/1-hr	0	0	0	0	0
Federal	> 35 ppm/1-hr	0	0	0	0	0
Max 8-hr concentration (ppm)		0.9	1.1	1.2	1.3	2.1
No. days exceeded: State	≥ 9.0 ppm/8-hr	0	0	0	0	0
Federal	≥ 9 ppm/8-hr	0	0	0	0	0
Ozone						
Max 1-hr concentration (ppm)		0.086	0.097	0.080	0.085	0.078
No. days exceeded: State	> 0.09 ppm/1-hr	0	1	0	0	0
Federal	> 0.12 ppm/1-hr	0	0	0	0	0
Max 8-hr concentration (ppm)		0.073	0.076	0.069	0.080	0.066
No. days exceeded: Federal	> 0.08 ppm/8-hr	0	0	0	0	0
Particulates (PM_{10})						
Max 24-hr concentration (ppm)		64	70	55	64	113
No. days exceeded: State	> 50 $\mu g/m^3$	2	3	2	3	1
Federal	> 150 $\mu g/m^3$	0	0	0	0	0
Annual arithmetic average concentration		24	24	20	24	21
No. days exceeded: State	> 20 $\mu g/m^3$ annual avg	1	1	0	1	1
Federal	> 50 $\mu g/m^3$ annual avg	0	0	0	0	0
Particulates ($PM_{2.5}$)[2]						
Max 24-hr concentration (ppm)		16.6	20.5	21.3	43.2	28.7
No. days exceeded: Federal	> 65 $\mu g/m^3$	0	0	0	0	0
Annual avg. concentration		7.6	8.6	9.6	10.4	9.8
No. days exceeded: State	> 12 $\mu g/m^3$ annual avg	0	0	0	0	0
Federal	> 15 $\mu g/m^3$ annual avg	0	0	0	0	0
Nitrogen Dioxide						
Max 1-hr concentration (ppm)		0.043	0.047	0.047	0.042	0.043
No. days exceeded: State	> 0.25 ppm/1-hr	0	0	0	0	0
Annual avg. concentration		0.005	0.005	0.005	0.005	0.006
No. days exceeded: Federal	0.053 ppm annual avg	0	0	0	0	0
Sulfur Dioxide						
Max 1-hr concentration (ppm)		0.118	0.070	0.065	0.059	0.140
No. days exceeded: State	> 0.25 ppm/1-hr	0	0	0	0	0
Max 3-hr concentration (ppm)		0.042	0.045	0.037	0.040	0.083
No. days exceeded: Federal	> 0.5 ppm/3-hr	0	0	0	0	0
Max 24-hr concentration (ppm)		0.020	0.012	0.014	0.014	0.016
No. days exceeded: State	> 0.04 ppm/24-hr	0	0	0	0	0
Federal	> 0.14 ppm/24-hr	0	0	0	0	0
Annual avg. concentration		0.004	0.003	0.004	0.003	0.003
No. days exceeded: Federal	0.053 ppm annual avg.	0	0	0	0	0

Source: EPA and ARB 2000 to 2004

[1] Carbon monoxide (CO) and $PM_{2.5}$ data are from the Santa Maria station because CO and $PM_{2.5}$ are not monitored at the Nipomo Regional Park station.

[2] Revised to add data from the years 2003 and 2004

Comment E-5: *Section V.D, Air Quality, Page V.D-8*
On page V.D-8 the statement is made that projects in the South Central Coast Air Basin with construction-related emission that exceed any of the emission threshold listed are considered significant by the APCD. It should be noted that the thresholds listed in the SEIR for both construction and operational phase emissions are only relevant to San Luis Obispo County. Other air districts in the SCCAB have different thresholds.

Response E-5: The sentence on page V.D-8 has been revised herewith to read as follows:

> "Projects in the APCD jurisdiction with construction-related emissions that exceed any of the emission thresholds (daily or quarterly) above are considered significant by the APCD."

Comment E-6: *Section V.D, Air Quality, Page V.D-9 throughV.D-10*
Daily Construction Equipment Exhaust Emissions are presented in Table V.D.5. Based on the data presented in this table it does not appear that any haul trips for the asphalt, cut/fill material, road base, or other supplies were taken into consideration. These emissions must also be quantified to access the total emissions from the construction phase of the project. This table should be updated to include these emissions. This data will be necessary to determine the appropriate mitigation measures and the number of diesel particulate filters or oxidation catalysts required for the project.

Response E-6: Haul trips for the asphalt, cut/fill material, road base, or other supplies were not taken into consideration in the Daily Construction Equipment Exhaust Emissions presented in Table V.D.5. Table V.D.5 (see below) has been revised to include haul truck trip emissions. Revisions to the table are noted in bold. Even with the added haul truck trips, pollutant emissions are still within APCD's thresholds. Regarding the use of this new information to determine the appropriate mitigation measures and the number of diesel particulate filters or oxidation catalysts required for the project, see Response to Comment F-12.

Table V.D-5: Daily Construction Equipment Exhaust Emissions[4]

Number and Equipment Type[1]	No. of Hours in Operation[2]	Pollutants (lbs./day)				
		CO	ROG	NO_X	SO_X	PM_{10}
2 Tracked Loader	8	3.2	1.6	13.2	1.2	1.0
2 Tracked Tractor	8	5.6	1.0	20.2	2.2	1.8
2 Scraper	8	20.2	4.6	61.4	7.4	6.4
1 Roller	8	2.4	0.5	6.9	0.5	0.4
2 Motor Graders	8	2.4	0.6	11.4	1.4	1.0
2 Miscellaneous	8	10.8	2.4	27.1	2.3	2.2
24 Construction Worker Trips	(50 mi)/RT[3]	10.3	1.9	3.3	0.6	1.2
40 Haul Truck Trips[5]	**(40 mi)/RT**	**32.0**	**2.2**	**35.5**	**0.4**	**0.8**
TOTAL		**86.9**	**14.8**	**179.0**	**16.0**	**14.8**
APCD Threshold		N/A	185	185	N/A	75
Exceed APCD Threshold?			NO	NO		NO

Source: LSA Associates, Inc. 2004.

1 Emission factors provided in EPA, AP-42, Volume II.

2 This assumes an eight hour work day within the window of construction hours (7 a.m. to 9 p.m.)

3 RT: Round-trip

4 Revised to add emissions data for haul truck trips

5 Numbers in bold reflect changes from Table V.D-5 in the Draft SEIR

Comment E-7: *Section V.D, Air Quality, Page V.D-10*
As indicated in on page V.D-10 the project site is located in a candidate area for Naturally Occurring Asbestos (NOA), which has been identified as a toxic air contaminant by the California Air Resources Board (ARB). Under the ARB Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any grading activities at the site, the project proponent shall ensure that a geologic evaluation is conducted to determine if NOA is present within the area that will be disturbed. **If NOA is not present, an exemption request must be filed with the District (see Attachment 1). If NOA is found at the site the applicant must comply with all requirements outlined in the Asbestos ATCM.** This may include development of an Asbestos Dust Mitigation Plan and an Asbestos Health and Safety Program for approval by the APCD. Please refer to the APCD web page at *http://www.slocleanair.org/business/asbestos.asp* for more information or contact Tim Fuhs of our Enforcement Division at 781-5912.

Response E-7: Mitigation Measure D-2 currently requires the County to conduct borings in the project area to test for the occurrence of ultramafic or asbestos containing materials prior to the start of construction. If ultramafic or asbestos containing materials are discovered, the County is required to comply with all requirements outlined in the Asbestos ATCM. The discussion about NOA, however, does not include any requirements should NOA *not* be found in the project area. As

requested by the APCD, the following sentence is included in the paragraph addressing NOA on Page V.D-10:

> "If NOA is not present within the project area an exemption request must be filed with the Air Pollution Control District."

Comment E-8: *Section V.D, Air Quality, Page V.D-11*
Under the Carbon Monoxide Hot Spots analysis the statement is made that the primary mobile source pollutant of local concern is CO. This is not a correct statement. Mobile source generate NO_x, ROG, and PM, all of which are primary pollutants of concern in the county.

Response E-8: The confusion surrounding the above statement stems from the use of the word "local". The term "local" is being used to mean "within the immediate vicinity of the project alignment" rather than to mean a particular municipality, unincorporated area, or even the larger region. We do acknowledge that mobile sources generate NO_x, ROG, and PM, which are pollutants of utmost concern. However, the idea is that within the immediate project vicinity where new intersections will be developed, the pollutant that is most likely to increase and be of concern is CO. Therefore, no changes have been made to Page V.D-11.

Comment E-9: *Section V.D, Air Quality, Page V.D-12*
On page V.D-12, the statement is made that "because the CAP is based on projects from local General Plans, projects consistent with the local General Plan are considered consistent with the CAP". This is not true. First, the population projections in the CAP are based on consensus [sic] information used by SLO County Planning Department and San Luis Obispo Council of Governments, local evaluation of historic growth rates; national, state, and local economic forecasts. Secondly, just because a project is consistent with a general plan does not mean it is consistent with the CAP. The CEQA Air Quality Handbook outlines on page 2-3 the three primary parameters that are used to access whether a project is consistent with the CAP. Those being the following:

- Are the population projections used in the plan or project equal to or less than those used in the most recent CAP for the same area?
- Is the rate of increase in vehicle trips and miles traveled less than or equal to the rate of population growth for the same area?
- Have all applicable land use, transportation control measures and strategies for the CAP been included in the plan or project to the maximum extent feasible?

If the answers to ALL the above questions are yes, then the proposed project or plan is considered to be consistent with the CAP. The argument and data presented in Table V.D-7 do not demonstrate consistency with the CAP. CO concentrations are not used to determine consistency with the CAP.

Response E-9: As shown in Table V.D-7, the proposed project will not significantly contribute to or cause deterioration of existing air quality; therefore mitigation measures are not required for the long-term operation of the project. The proposed project would not result in a net increase in vehicle miles traveled within the region or increase the population within the County. In addition, the project design includes a park and ride facility and a transit stop – transportation control measures recommended in the CAP that help to improve the overall performance of the transportation system. Hence the proposed project is considered to be consistent with the County of San Luis Obispo's General Plan

and the SLOCOG forecast, and is therefore consistent with the CAP. The text on page V.D-12 is herewith amended to further clarify the conclusion of consistency:

> As shown in Table V.D-7, the proposed project will not significantly contribute to or cause deterioration of existing air quality; therefore, mitigation measures are not required for the long-term operation of the project. The proposed project would not result in a net increase in vehicle miles traveled within the region or increase the population within the County. In addition, the project design includes a park and ride facility and a transit stop – transportation control measures recommended in the CAP that help to improve the overall performance of the transportation system. In addition, emissions generated by idling traffic at peak hour periods will ultimately be reduced. Hence, the proposed project is considered to be consistent with the County of San Luis Obispo's General Plan and the SLOCOG forecast, and is therefore consistent with the CAP.

Comment E-10: *Section V.D, Air Quality, Page V.D-15*
Pursuant to APCD Rule 420, relates to cutback asphalt paving material. All asphalt material used should be consistent with Rule 420 and the contractor should maintain records in accordance with this rule.

Response E-10: Text has been added to Mitigation Measure D-1 to include a reference to Rule 420. Mitigation Measure D-1 now reads as follows:

> **D-1, APCD Asphalt Paving Regulations.** The construction contractor shall adhere to the requirements of APCD rules and regulations on cutback and emulsified asphalt paving materials pursuant to APCD Rule 420. As part of any County Request for Proposal to complete this work, and/or contract specifications, applicable provisions of this Rule shall be incorporated. Prior to work commencing, the County shall contact APCD for verification that construction plans have incorporated appropriate measures.

Comment E-11: *Section V.D, Air Quality, Page V.D-15*
In addition to Naturally Occurring Asbestos, a provision should be included in the project for demolition activities if applicable. The Site Plan provided with the SEIR placed the proposed project within close proximity of existing structures but does not specify whether demolition of existing structures will take place. Demolition activities can have potential negative air quality impacts, including issues surrounding proper handling, demolition, and disposal of asbestos containing material (ACM). Asbestos containing material could be encountered during demolition or remodeling of existing buildings. Asbestos can also be found in utility pipes/pipelines (transit pipes or insulation on pipes). **If utility pipes are scheduled for removal or relocation; or building(s) are removed or renovated this project may be subject to various regulatory jurisdictions, including the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M – asbestos NESHAP).** These requirements include but are not limited to: 1) notification requirements to the District, 2) asbestos survey conducted by a Certified Asbestos Inspector, and, 3) applicable removal and disposal requirements of identified ACM. Please contact Tim Fuhs of the Enforcement Division at 781-5912 for further information.

Response E-11: The proposed project will not require demolition of any buildings. As discussed in Chapter V.E., Public Services, implementation of the project has the potential to disturb underground

natural gas and/or electrical service mains, water or sewer mains, and telephone of cable television lines. There is the potential for asbestos to be associated with the construction material or insulation on these lines. Mitigation Measure E-3, Existing Service Mains, requires submittal of design plans to the affected utility agencies regarding potential relocation of service mains and lines. The fact that relocations would be performed consistent with federal, State, and local regulations, including regulations with respect to hazard emissions such as asbestos emissions, will be added to Mitigation Measure E-3 to make this requirement explicit. Mitigation Measure E-3 now reads as follows:

> **E-3, Existing Service Mains.** The County Department of Public Works shall submit the final project design plans to the Southern California Gas Company, Pacific Gas and Electric Company, the Nipomo Community Services District, Pacific Bell, State of California, Department of Water Resources and the local cable television provider for review no less than 90 days prior to construction in order to identify the location of existing service mains, provide for and necessary relocation of facilities and prevent any unexpected service interruptions. Relocations would be performed consistent with federal, State, and local regulations, including regulations with respect to hazard emissions such as asbestos emissions.

Likewise, as discussed in Chapter V.M, Hazardous Materials, natural gas and petroleum pipelines may need to be relocated. Mitigation Measures M-2 and M-3 require the project design and construction plans to avoid or remedy any potential impact to these pipelines. The impacts would include impacts related to hazardous materials, such as asbestos, that were used in their construction.

Comment E-12: *Section V.D, Air Quality, Page V.D-16*
Mitigation Measure D-5 discusses diesel particulate filter or diesel oxidation catalysts (filters/catalysts). As indicated above, the total emissions for the project must be quantified in order to determine the exact number of diesel particulate filter or diesel oxidation catalyst required. The contractor will work with the APCD in determining the exact number of filters/catalysts required and the appropriate equipment on which the filters/catalysts will be used. In general the filters/catalysts are installed on the highest emitting pieces of equipment. **The filters/catalysts must be approved by the APCD and installed prior to the issuance of grading permits and start of any construction activities. To avoid any construction delays the contractor should contact the APCD at least 3 months prior to the start of construction to coordinate the implementation of this air quality mitigation measure.**

Response E-12: As detailed in Mitigation Measure D-5, the contractor will work with the APCD to determine the exact number of filters/catalysts required and the appropriate equipment on which the filters/catalysts will be used. The contractor will ensure that the filters/catalysts are approved by the APCD and installed prior to the start of any construction activities.

Comment E-13: *Section V.D, Air Quality, Page V.D-16*
Mitigation Measure D-6, requires the contractor to prepare a Construction Activity Management Plan designed to minimize the amount of large construction equipment operating during any given time period. **The plan should be submitted to the District for review and approval prior to the issuance of grading permits and the start of construction.** The plans should include but not be limited to the following elements:

- Schedule construction truck trips during non-peak hours to reduce peak hour emissions;

- Limit the length of the construction work-day period, if necessary; and
- Phase construction activities, if appropriate.

Response E-13: The County agrees to amending Mitigation Measure D-6. The following language is herewith added to Mitigation Measure D-6:

> "The contractor will prepare and submit a comprehensive Construction Activity Management Plan to the APCD for review and approval prior to the start of construction. The plans will include but not be limited to the following elements:
>
> - Schedule construction truck trips during non-peak hours to reduce peak hour emissions;
> - Limit the length of the construction work-day period, if necessary; and
> - Phase construction activities, if appropriate."

Comment E-14: *Section V.D, Air Quality, Page V.D-16 and V.D-17*
The EIR states that "…it is assumed that up to three acres of land would be under construction or exposed at any point in time..", this seems unlikely given the scale of the proposed project development. The project calls for the construction of 2.5 miles of main roadway with a 100 ft right-of-way for a total area of 30.2 acres, a 0.8 mile frontage road with a 60 foot right of way, and two infiltration basins (exact dimensions not given). Given the magnitude of the project, the APCD estimates that it is likely, at times, throughout the course of the construction project areas greater than 4 acres may be exposed and/or under construction during the course of the project. Construction activities can also generate fugitive dust, which could be a nuisance to local residents and businesses in close proximity to the proposed construction site. Dust control measures are listed as Mitigation Measure D-10. APCD staff agrees with the mitigation measures listed in the SEIR. If properly implemented, these measures should adequately control fugitive dust.

Response E-14: Although more than 3 acres of area could be *exposed* at any one time during project construction, it has been estimated that no more than 3 to 4 acres will be *actively under construction* at any one time. Because the continuously worked area will be less than 4 acres and because the APCD staff agrees that the mitigation measures listed in the SEIR will adequately control fugitive dust, no changes have been made to the information presented on page V.D-9.

Comment E-15: *Section V.D, Air Quality, Page V.D-16*
In addition to the verbiage included in Mitigation Measure D-14, District staff recommends the following requirements be added:

> All on and off-road diesel equipment shall not be allowed to idle for more than 5 minutes. In addition, to include this condition to the construction plan specifications, signs shall be posted in the designated queuing areas to remind drivers and operators of the 5 minute idling limit.

Response E-15: The County agrees to amending Mitigation Measure D-14. The following language is herewith added to Mitigation Measure D-14:

> **D-14, Equipment Shut Off.** Prior to approval of grading permits, the construction contractor shall ensure that construction grading plans include a statement that work crews

will shut off equipment when not in use. All on and off-road diesel equipment shall not be allowed to idle for more than 5 minutes. This condition shall be included in the construction plan specifications. In addition to including this condition in the construction plan specifications, signs shall be posted in the designated queuing areas to remind drivers and operators of the 5 minute idling limit.

Comment E-16: *Section V.D, Air Quality, Page V.D-18*
Under Mitigation Measure D-16, the use of equipment that have Caterpillar pre-chamber diesel engines is listed as recommended but not mandatory. District staff no longer recommends the use of Caterpillar pre-chamber diesel engines. This condition can be removed from the SEIR.

Response E-16: Mitigation Measure D-16 has been revised to remove the condition that equipment that has Caterpillar pre-chamber diesel engines are mandatory. Mitigation Measure D-16 now reads as follows:

"The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew during construction activities. This condition shall be included in the construction plan specifications.

The following standard conditions for construction equipment are recommended but are not mandatory.

- Electrify equipment where feasible.
- Substitute gasoline-powered for diesel-powered equipment, where feasible.
- Implement activity management techniques as described in Section 6.4, pages B-2 and B-3 in Appendix D (Air Quality Assessment)."

Comment E-17: *Section V.D, Air Quality, Page V.D-18*
The following mitigation measures should be added to the SEIR. Portable equipment, 50 horsepower (hp) or greater, used during construction activities may require California statewide portable equipment registration (issued by the California Air Resources Board) or an APCD permit. The following list is provided as a guide to equipment and operations that may have permitting requirements, but should not be viewed as exclusive. For a more detailed listing, refer to page A-5 in the District's CEQA handbook.

- Power screens, conveyors, diesel engines, and/or crushers;
- Portable generators (50hp or greater);
- IC engines;
- Rock and pavement crushing;
- Tub grinders; and,
- Trommel screens.

To minimize potential delays, prior to the start of the project, please contact David Dixon of the District's Engineering Division at (805) 781-5912 for specific information regarding permitting requirements.

Response E-17: As requested, the following mitigation measure has been added to the SEIR. The addition of this measure does not imply any new or increased impacts associated with the proposed project, it merely provides further specification regarding equipment that may require permitting.

D-17, Portable Equipment: Portable equipment, 50 horsepower (hp) or greater, used during construction activities may require California statewide portable equipment registration (issued by the California Air Resources Board) or an APCD permit. The following list is provided as a guide to equipment and operations that may have permitting requirements, but should not be viewed as exclusive. For a more detailed listing, refer to page A-5 in the District's CEQA handbook.

- Power screens, conveyors, diesel engines, and/or crushers;
- Portable generators (50hp or greater);
- IC engines;
- Rock and pavement crushing;
- Tub grinders; and,
- Trommel screens.

Comment E-18: *Section V.D, Air Quality, Page V.D-18*
The following mitigation measures should be added to the SEIR. Effective February 25, 2000, the APCD prohibited developmental burning of vegetative material within San Luis Obispo County. Under certain circumstances where no technically feasible alternatives are available, limited developmental burning under restrictions may be allowed. This requires prior application, payment of fee based on the size of the project, APCD approval, and issuance of a burn permit by the APCD and the local fire department authority. The applicant is required to furnish the APCD with the study of technical feasibility (which includes costs and other constraints) at the time of application. If you have any questions regarding these requirements, contact Karen Brooks of our Enforcement Division at 781-5912.

Response E-18: No developmental burning of vegetative material will occur in association with the proposed Willow Road Extension/US 101 Interchange project. Therefore, an additional mitigation measure addressing developmental burning of vegetative material has not been added to the SEIR.